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CALCULATION OF THE GLASS TRANSITION TEMPERATURES OF LINEAR POLYMERS PART 2: THE POLYMER DATA SET

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SUMMARY

A large data set of 1179 polymers, with corresponding glass transition temperatures, is tabulated both in the form of chemical structures and in numerical form suitable for computer analysis. Polymers have been analysed into groups with invariant nearest neighbours and where a particular group is found in only one polymer, it has been identified. An unambiguous and easily assimilated method of analysing and classifying polymer structures into combinations of groups is illustrated which could be more widely adopted with much advantage. It is suggested that the polymer data set, with appropriate modifications and improvements, should be used as a standard set for the evaluation of Tg relationships.

Departmental Reference: Materials and Structures 223

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1 INTRODUCTION

A previous publication[1] (and references cited therein) underlined the importance of the glass transition temperature (Tg) in developing new polymer systems and showed that the Tgs of polymers could be calculated from their chemical structures using a relationship evaluated earlier. This relationship was employed on several polymer sets the numerical size of which was restricted because the time required to compute the results became exceedingly lengthy once the number of polymers in the set exceeded 100. Since then, however, very considerable advances have been made in the reduction in computation times, brought about by computer improvements and program changes[2], and in the estimation[3] of the additive temperature parameters used to make predictions of Tg values for polymers. These advances made the computational aspects of the analyses of data sets comprising 1000 polymers comparatively easy, though the formation of an accurate set in a numerical form remains exceedingly arduous.

It is very important in the evaluation and subsequent use of structure/property relationships that the data used should cover as wide a range of chemical structures and Tgs as possible and that the number of polymers of each kind should be as large as possible. By this means, possible errors in the data are diluted and the parameters then derived can be used with more confidence in predictive work. With respect to the present study, the parameters derived correspond directly to component chemical groups which exist within polymers of the data set. All the polymer structures which can be predicted from the data include groups, with identical nearest neighbours to those which have already existed in polymers. On this ground, it is perhaps reasonable to hope that predicted structures have more hope of being synthesized than if a random selection of groups, without nearest neighbour constraints were combined. However, predictions are restricted, barring further assumptions, to new polymers containing combinations of the original groups. The range of polymers to which predictions can be applied is thus enhanced by increasing the number of different chemical groups represented by the polymers in the set. With this in mind, it was decided to compile a large and varied data set, evaluate several of the different relationships between Tg and structure, and particularly, to provide a wide range of parameters which can be used to predict the effect of structure on Tg in linear polymers. Another reason for using a large data set is that when this is done, it is found that particular relationships can fit well for about 300 polymers, but break down when applied to a much larger set. For predictive purposes, a large data set is seen to be necessary to prove the validity of any relationship. Previously reported sets have only numbered about 350 polymers.

This Report describes the data set and provides also a numerical analysis and characterisation of the data. This analysis should not only assist other workers to have a better understanding of the results which follow in later parts of this series, but should also greatly facilitate the evaluations of different Tg/structure relationships involving the same data. It is hoped that with improvements in the Tg values, the data set, or a further improved version, might become the basis for a standard test set and that other workers may be encouraged to use it both in the evaluation of Tg/structure relationships and in the prediction of polymer Tgs.

2 THE DATA SET

The data set comprises all the polymers which have been involved in earlier calculations (see References for list of papers) and includes most of the data published before 1980 on acrylates, methacrylates, chloroacrylates, fluoropoymers, all available data on polymers with Tg less than 0C, polymers with alkyl side chains and a large number of polymers containing heterocyclic groups. The total number of polymers is 1179 and their structures are presented in hierarchical order[4], with their Tgs in Table 1. The Tg data were determined by numerous different methods on samples of polymers differing in degree of crystallinity and/or polymerisation, purity, etc. These data have been adjusted, as necessary, to be on a comparable basis in respect of heating rates applied during Tg measurements, and also, insofar as it is possible, with regard to other factors affecting Tg values[5]. The values adopted approximate, wherever possible, to those expected from dilatometric measurements conducted at heating rates of about $3^{\circ}C/h$ on undiluted samples of low crystallinity and high molecular weight. Approximately 11000 published Tg values were considered in formulating the set.

The groups which make up the polymers in the data set are shown in Table 2 where they are numerically identified. The same groups are shown in hierarchical order in an earlier Report[4]. In Table 2, the orientation of the bonds which are not linked to a group at one end indicates whether they are main-chain, or side-chain, bonds. All vertical bonds are side-chain bonds, side-chain groups are marked 'sc'. if there are only two horizontal bonds on a structure and the structure is not marked sc, they are both main-chain bonds. The only exceptions to these observations are shown in Table 3 which gives the bond orientations of specific groups where some ambiguity could arise. It will be noted that, in Table 2, some group numbers are missing. This is because the data is taken from a larger set and throughout this series of reports consistency in numbers for the groups is preserved.

Table 3

Bond locations of specific groups

Group	Main-chain bond orientation	Side-chain bond location
48	-	1,2
53	1,3	4
56	-	1,2,3
57	-	1,2,4,5
59	-	1,2,3,5
60	-	1,2,3,4,5,6
82	1(N),2	2
161	-	1,2,5
166	1,1	2,4
169	-	1,3,5
226	3,3	6

3 NUMERICAL ANALYSIS OF THE DATA SET

Calculation of additive temperatures[7] (ATPs) for predicting polymer Tgs requires that the chemical structures of the polymer be expressed in numerical form[6]. For this purpose, it is necessary to define what is meant by a 'group'.

3.1 Definition of a group

A group is considered to be the smallest polymer segment capable of independent torsional oscillation with respect to its nearest neighbours; all the groups in the set are shown in Table 2. Each group is identified by an arbitrary code number and the nearest neighbours of any group are invariable. A group may be referred to as a 'neighboured group', when it is necessary, in the context used, to differentiate it from a group whose neighbours are not invariant.

The invariability of nearest neighbours is an essential feature of the analysis and reflects the fact that the rotational mobility of any particular group, at a particular temperature, must be strongly dependent on the identity of its neighbouring groups, and, to a less predictable extent, on all the other groups in the polymer[7]. However, if groups were to be defined beyond their nearest neighbours, a large increase in the number of different groups would occur which would be more difficult to manage and from a statistical point of view a large increase in the ratio of variables to polymers would not necessarily increase the predictive value of the analysis[7]. Thus, immediate neighbours only are taken into account in defining a particular group in its environment. The following conventions have also been adopted:-

(a) hydrogen and fluorine atoms are considered to be part of the group to which they are attached. (Note that in considering the seniority of a group[4], fluorine atoms are regarded as separate components.) Examples are trifluoromethyl, pentafluorophenyl, etc;

(b) ring skeletons are regarded as single groups;

(c) multiply-bonded groups, *eg* -CH=CH-,-CO,-CN are considered to be single groups;

(d) main-chain and side-chain groups are differentiated and designated different numbers;

(e) side-chain-terminal groups, or primary groups, which include all singly-bonded groups and single substituents to main chains are not numbered separately, but are considered to be part of the parent group to which they are attached. The coefficient of the parent groups is increased by one for each terminal group attached to it. The results from the application of the Tg relationships to data analysed in this way are numerically the same as if the terminal groups had been treated as separate groups, as would be expected, and the complexity of the results is greatly reduced;

(f) groups in the main- and side-chain series -(CX2)n-, where x is H , or F , and n varies from 3 to 23 are treated as follows:-

  (i) the series is written in the form -CX2-(CX2)n-CX2- ;

  (ii) the value n - 2 is then used to identify the group number from Table 2, *eg* 309, 359, 409, or 459, if n = 11 , corresponding to X = H main chain; X = H , sidechain; X = F , main chain; X = F , side chain;

  (iii) all the groups within the brackets are each given the identified number;

  (iv) both of the groups which are immediately outside the bracketed groups, that is, the groups which are neighbours to the bracketed groups, are denoted 6, 7, 132 or 133, for groups 302 to 321, 352 to 371, 402 to 421, and 452 to 471, respectively.

Thus, for a main-chain group with X = F and n = 13 as in -(CF2)13- , groups within the bracket are all numbered 411 and each is said to have two neighbours each numbered 132. If one of the series -(CX2)n - is a neighbour to any other group, *eg* as in -CO-(CX2)n- , then the neighbour CO is said to have a neighbour itself (within the bracketed sequence) numbered 6, 7, 132 or 133 (rather than 302

to 321, 352 to 371, 402 to 421, or 452 to 471) following the above notation. If this distinction were not made for groups in these series, there would be 2325 more groups (defined by section 3.2).

(g) Asymmetrical groups are differentiated from their mirror images in order to show unambiguously the location of their nearest neighbours. The structural variations which arise are covered by a further set of rules based on the following procedure which determines unambiguously the numbers to be assigned to the single groups making up the neighboured group. Note that in a polymer containing more than one asymmetric group the whole procedure is repeated for each asymmetric group in turn: orientation of one asymmetric group does not enable the numerical identify of another asymmetric group to be determined.

(i) Write down the asymmetric group and its nearest main-chain neighbours as they occur in the polymer repeating unit.

(ii) Orientate the asymmetric group under consideration, preserving the same linkages, so that the numbers designated to the neighbouring groups are in increasing order from left to right. If one of the neighbouring groups is itself an asymmetric group, then the neighbouring asymmetric group is placed on the right side, regardless of its numerical value. The group number of the asymmetric group under consideration is then determined by reference to Table 2 where a search is made for the same asymmetric group in the same orientation. If both of the neighbouring groups are asymmetric, *eg* if they are identical, then the group number allocated is the lowest of the two numbers allocated to the asymmetric group and its mirror image group in Table 2. Reference to Table 2 may show the asymmetric group under consideration, but not in the orientation required. In such cases, it is permissible within the rules to rotate, notionally, the group in question about a horizontal axis through its centre before making the comparison. (Rotation about a vertical axis, or an axis normal to the paper, just produces a mirror image as can be seen, *eg* with groups 286 and 287.)

For example, take Polymer 486, the second polymer of Table 1. The polymer is firstly written down as shown in Table 1, but with the methylene chain on the left-hand side. The methylene single-groups at each end of the methylene chain are both numbered 6 (see rule (f) above), so, in the polymer, each of the heterocylic groups has a neighbour which is an asymmetric group and a single-group

numbered 6. The left-hand heterocyclic group should now be orientated so that the neighbouring asymmetric group is on its right-hand side, as required in rule (g)(ii) above. In this example, the orientation is already correct. Reference to Table 2 shows this left-hand asymmetric group to be numbered 179 (not 87, which is the mirror image, nor 167, nor 170, which have the wrong bond orientations). As required, the rules are next applied to the asymmetric heterocyclic group on the right as seen in Table 1. This time, the polymer structure must be orientated so that the methylene chain is on the left of the asymmetric group under consideration so that the structure is seen as though through the paper from the other side, because once again the neighbouring asymmetric group must be on the right-hand side. When this is done, the heterocyclic group under consideration is again seen to be number 179. Thus, in the polymer, the aspect from the end of the methylene chain is of a single group denoted number 179, looking either to the left, or to the right. Summarising, therefore, the single groups present in Polymer 486 are seen to be, reading from left to right, -179-179-6-306-6, and the number of single groups represented by 306, which is a combination of methylene groups, is 6, making 10 single groups.

3.2 Group combinations

As stated in section 3.1, groups are identified by an arbitrary code number and the nearest neighbours of any particular group are invariable. Each assemblage, consisting of a single-group and its neighbours, is also given a unique arbitrary number. This arbitrary secondary level of coding is not absolutely necessary because a number for the assemblage could be formed by joining together the numbers of the constituent groups in numerical order to form one long number (consisting of up to 21 digits), but by using a shorter number, errors are greatly limited. A particular group, therefore has two numbers, which must be clearly distinguished from each other. One number corresponds to single units as in Table 2 and the second, which is used in the calculations, corresponds to a 'neighboured group' in which nearest neighbours are taken into consideration. In the remainder of this series of Reports, the former group will be referred to as a 'single group' and the latter as a 'neighboured group', or, more often, just a 'group'. A complete computer listing of all the groups used in the polymer analyses is provided in Table 4. The Table is arranged in two sets of three columns with a full stop marking the end of the first set. Column 1 of this table, provides the group number, column 2, the main single-group number, and column 3, represents the single groups which are neighbours to the main

single-group. The latter, which ends with a full stop, is a composite number. It is right adjusted in columns of three digits, in numerical order from left to right, and with each set of three digits representing a single-group number, for example, "1001049108" represents single groups 108, 49, 1 and 1. Likewise for columns 4 to 6. Thus Group 25 consists of a main-chain single-group, number 121, with nearest neighbours 108, 49, 1 and 1. The 1107 groups listed are taken from a larger catalogue of groups and are not numbered consecutively.

Referring now to the analysis of Polymer 486 in section 3.1, we found the single group sequence to be -179-179-6-306-6. The corresponding groups in the polymer (combinations of single groups with nearest neighbours) are:

(1)	179	with nearest neighbours	6 179
(2)	179	with nearest neighbours	179 6
(3)	6	with nearest neighbours	179 306
(4)	306	with nearest neighbours	6 6
(5)	6	with nearest neighbours	306 179

Evidently, groups (1) and (2) are identical, as are (3) and (5).

In Table 4 these combinations are rewritten in the form:

Group number	Main single group	Neighbouring groups	
1197	6	6179	(1) and (2) above
1306	306	6006	(4) above
2139	179	6179	(3) and (5) above

Note that in accordance with section 3.1 (f) (last paragraph), the single group 306 is renumbered 6 when it is a neighbour and that all single groups, in such sequences of identical single groups, are also renumbered.

3.3 Polymer analysis

A complete analysis of the 1179 polymers in the data set is provided in Table 5. Each new set of data is preceded by an asterisk which is followed by the polymer number, the number of groups in the polymer, the Tg and numbers which are to be taken in pairs, representing group numbers and their coefficients (the number of such groups in the polymer). Continuation lines are used for group numbers and their coefficient values and these are distinguished by not being preceded by an asterisk. Thus, the polymer considered in sections 3.1 and 3.2 above, polymer number (PNo.) 486, contains 10 groups (Ngroups), has a Tg of 623K and contains two groups each of types 1197 and 2139 and six groups of type 1306.

The group and polymer numbers are arbitrary numbers and retained from previous analyses; some numbers are missing from a consecutive ordering.

The foregoing analysis of polymers into combinations of groups is, in practice, reduced to merely submitting the single-group sequence to computer analysis. It provides an unambiguous and easily assimilated method of analysing and classifying polymer structures which could be more widely adopted with much advantage.

4 CHARACTERISTICS OF THE DATA SET

4.1 Polymers having unique groups

The significance of unique groups in polymers has been discussed in an earlier Report[7]. A unique group is one which does not occur in any of the other polymers in the set analysed. Polymers containing one, or more, such groups are referred to as 'unique polymers'. In previous calculations, and possibly in calculations undertaken by other workers, the parameters for a unique group were arrived at by choosing a value which equated the calculated with the observed Tg. Thus the calculated Tg for such polymers was always equal to the observed Tg and such polymers provided no evaluation of the relationship between calculation parameters and Tgs though their presence generally did not affect the ATPs of polymers which did not contain unique groups. In the present analysis, which used statistical methods for Tg prediction[2,3], the calculated and observed Tg values for unique polymers are not usually equal and the inclusion of polymers with unique groups in the present analysis does affect the values of all ATPs. The way in which the presence of unique polymers affects the results and bears on the evaluation of different relationships for the calculation of Tg, should always be analysed, otherwise a correct assessment cannot be made of the fit of calculation parameters with the data set from which they are derived. Previous workers have not identified unique polymers.

The polymers in the present data set were trawled for unique groups, unique polymers were removed: the trawl was repeated and a fresh set of unique polymers discovered and removed. This process was repeated until all the unique polymers have been removed. 395 unique polymers were found in four trawls. The unique polymers are identified in Table 6 along with their unique groups. All the unique polymers have been included in the present data set in order to provide as wide a structural variety of groups and ATPs as possible for the prediction of polymer Tgs.

4.2 Distribution of groups within the polymer set

If the data set is to be representative of a wide range of different polymer structures, then the constituent chemical groups should be distributed widely and evenly. Table 7 provides an analysis of the number of polymers containing each of the 1107 different groups. The Table is divided into pairs of numbers, the first, "Grno", identifying the group number and the second, "Npol", which is terminated by a full stop, is the number of polymers containing that group. Thus, group 833, which is represented in 226 polymers, has the widest distribution in the entire set. 535 different groups are present in only one polymer, making that group and polymer 'unique' (see section 4.1 and Table 6). Further distributional analysis of this kind is provided in Table 8 where numbers are presented in pairs, with the second number ending with a full stop. Thus 162 different groups (Ng) are present in two polymers (Np) and only one group, is represented in 176 polymers.

Table 8

Distribution of group occurrences in the polymer set

Ng	Np	Ng	Np	Ng	Np	Ng	Np	Ng	Np	Ng	Np	Ng	Np	Ng	Np
535	1	162	2	82	3	56	4	36	5	26	6	26	7	23	8
23	9	14	10	13	11	13	12	7	13	5	14	4	15	2	16
8	17	2	18	5	19	1	20	5	21	3	22	4	23	1	24
4	25	2	26	1	28	1	30	3	31	2	32	2	33	2	34
2	35	3	36	1	37	2	38	1	39	1	40	1	41	1	44
3	47	1	48	1	49	1	51	1	52	1	54	2	57	1	60
1	66	1	68	1	82	1	92	1	96	1	108	1	120	1	136
1	138	1	176	1	226										

Table 1 divides the data set polymers into classes which are arbitrarily based on the most senior of the constituent groups. Many of the single groups within the polymers could be used to extract particular classes of polymers, for example, ethers, esters, imidazoles, etc. It is of interest to examine the effects of chemical structure on the Tgs of polymers in classes, and to facilitate this a table has been prepared which shows which polymers contain each neighboured group in turn. This table contains other data relating to calculation parameters and will be presented in the next part of this Report.

4.3 Distribution of Tg values within the data set

The distribution of Tg values within the data set is shown in Table 9. The data is presented in paired values, with the Tg, in K , first and the number of polymers (Npo) with that Tg followed by a full stop. The mean Tg value is 350 K. Banded values are shown at the bottom of the Table. It can be seen that there is

a concentration of values in the elastomer region, 200/300K, but otherwise the spread of values is much as it is likely to be for polymers in general.

5 CONCLUSIONS

A large data set of 1179 polymers is provided, with corresponding glass transition temperatures, in the form of chemical structures and in numerical form suitable for computer analysis. Polymers have been analysed into groups with invariant nearest neighbours and those groups present in only one polymer have been identified. The data set has been characterised showing the distribution of groups and of Tgs.

An unambiguous and easily assimilated method of analysing and classifying polymer structures into combinations of groups is illustrated which could be more widely adopted with some advantage.

It is suggested that the polymer data set, with improvements as necessary, should be used as a standard set for the evaluation of Tg relationships.

Table 1

CHEMICAL STRUCTURES AND GLASS TRANSITION TEMPERATURES OF POLYMER DATA SET

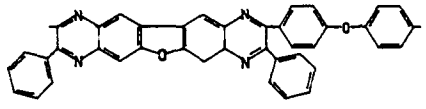
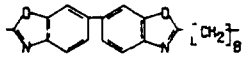
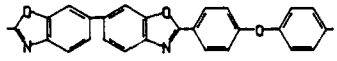
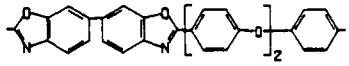
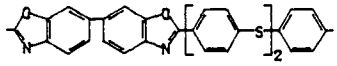
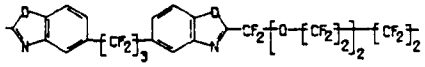
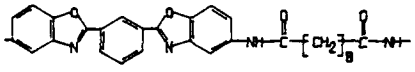
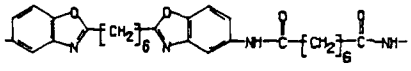
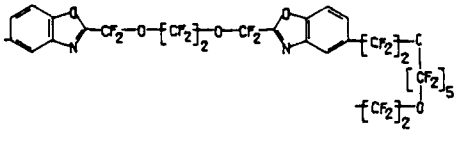
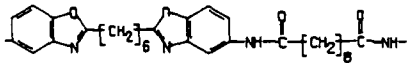
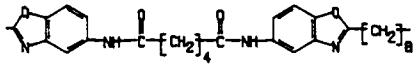
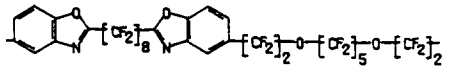
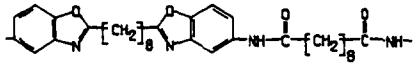
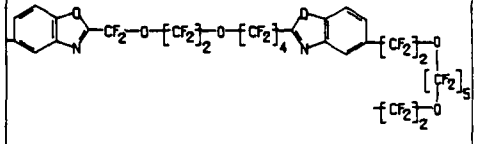
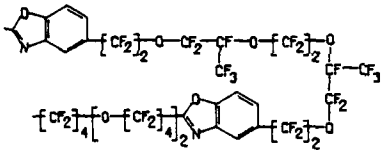
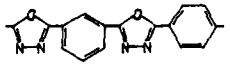
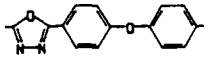
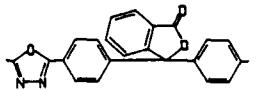
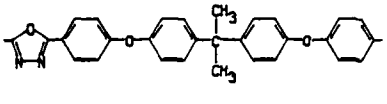
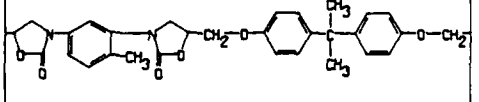
 POLYMER 1155 Tg 669	 POLYMER 486 Tg 623
 POLYMER 1165 Tg 643	 POLYMER 1163 Tg 562
 POLYMER 1164 Tg 553	 POLYMER 1157 Tg 272
 POLYMER 1162 Tg 383	 POLYMER 1159 Tg 340
 POLYMER 1088 Tg 253	 POLYMER 1158 Tg 349

Table 1 (continued)

 POLYMER 1160 Tg 348	 POLYMER 1087 Tg 263
 POLYMER 1161 Tg 356	 POLYMER 1069 Tg 248
 POLYMER 1156 Tg 238	 POLYMER 1166 Tg 541
 POLYMER 1167 Tg 513	 POLYMER 1168 Tg 653
 POLYMER 452 Tg 453	 POLYMER 1171 Tg 385

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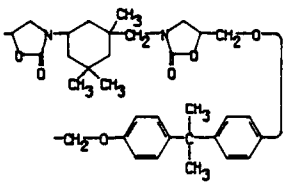
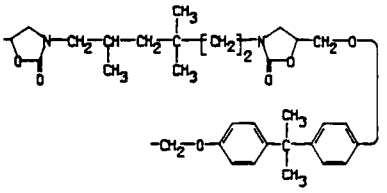
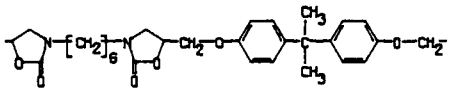
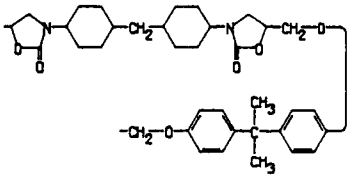
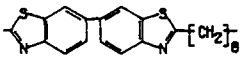
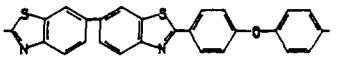
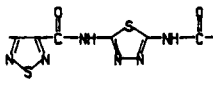
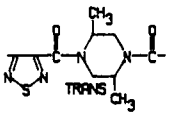
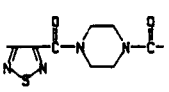
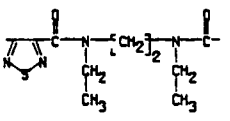
 POLYMER 1172 Tg 417	 POLYMER 1173 Tg 349
 POLYMER 1170 Tg 347	 POLYMER 1169 Tg 425
 POLYMER 469 Tg 511	 POLYMER 1174 Tg 581
 POLYMER 1183 Tg 423	 POLYMER 1193 Tg 501
 POLYMER 1190 Tg 477	 POLYMER 1175 Tg 337

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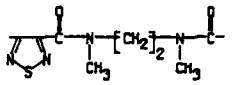
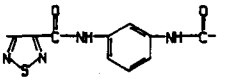
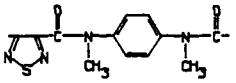
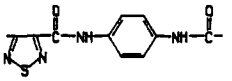
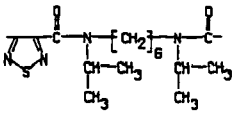
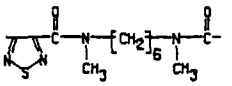
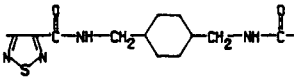
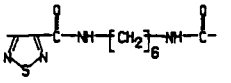
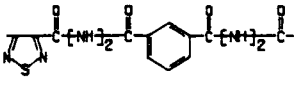
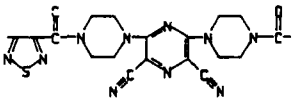
 POLYMER 1185 Tg 335	 POLYMER 1180 Tg 491
 POLYMER 1187 Tg 413	 POLYMER 1181 Tg 543
 POLYMER 1184 Tg 278	 POLYMER 1186 Tg 311
 POLYMER 1179 Tg 406	 POLYMER 1178 Tg 329
 POLYMER 1176 Tg 481	 POLYMER 1191 Tg 495

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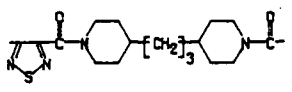
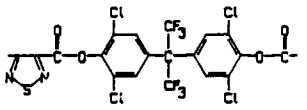
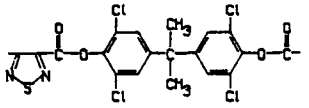
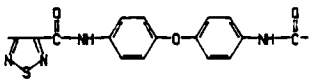
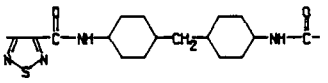
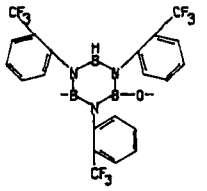
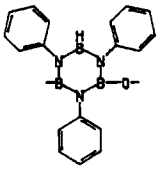
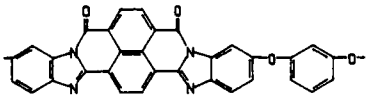
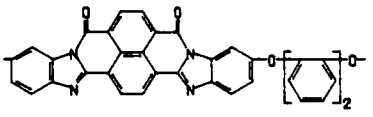
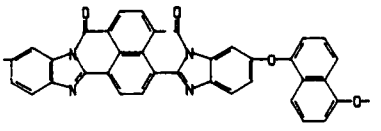
 POLYMER 1192 Tg 381	 POLYMER 1188 Tg 428
 POLYMER 1189 Tg 463	 POLYMER 1182 Tg 480
 POLYMER 1177 Tg 468	 POLYMER 1194 Tg 405
 POLYMER 1196 Tg 353	 POLYMER 1198 Tg 586
 POLYMER 1198 Tg 583	 POLYMER 1197 Tg 581

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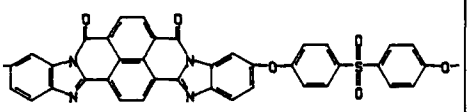
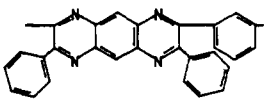
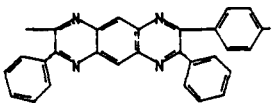
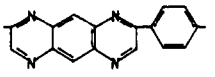
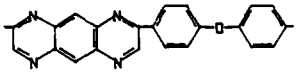
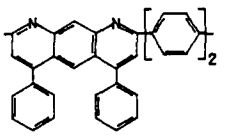
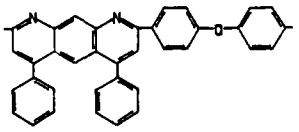
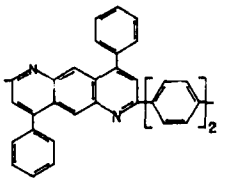
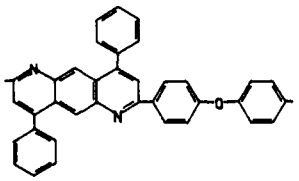
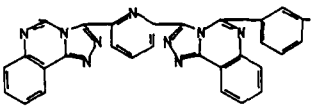
 POLYMER 1199 Tg 567	 POLYMER 1200 Tg 628
 POLYMER 1201 Tg 658	 POLYMER 1202 Tg 655
 POLYMER 1203 Tg 616	 POLYMER 1205 Tg 655
 POLYMER 1207 Tg 642	 POLYMER 1204 Tg 646
 POLYMER 1206 Tg 629	 POLYMER 1208 Tg 605

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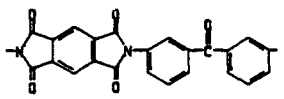
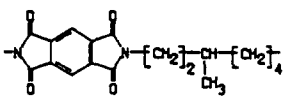
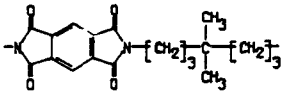
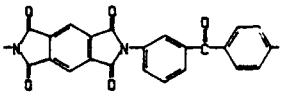
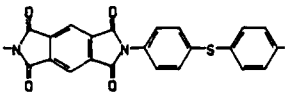
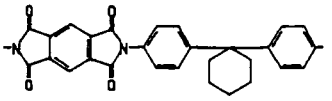
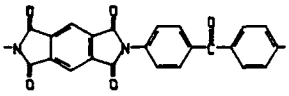
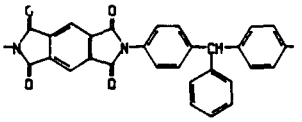
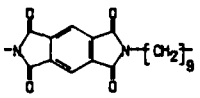
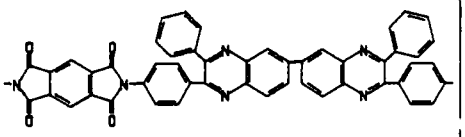
 POLYMER 1216 Tg 591	 POLYMER 1213 Tg 408
 POLYMER 1212 Tg 408	 POLYMER 1217 Tg 613
 POLYMER 1225 Tg 618	 POLYMER 1219 Tg 623
 POLYMER 1218 Tg 685	 POLYMER 1215 Tg 613
 POLYMER 1214 Tg 383	 POLYMER 1220 Tg 480

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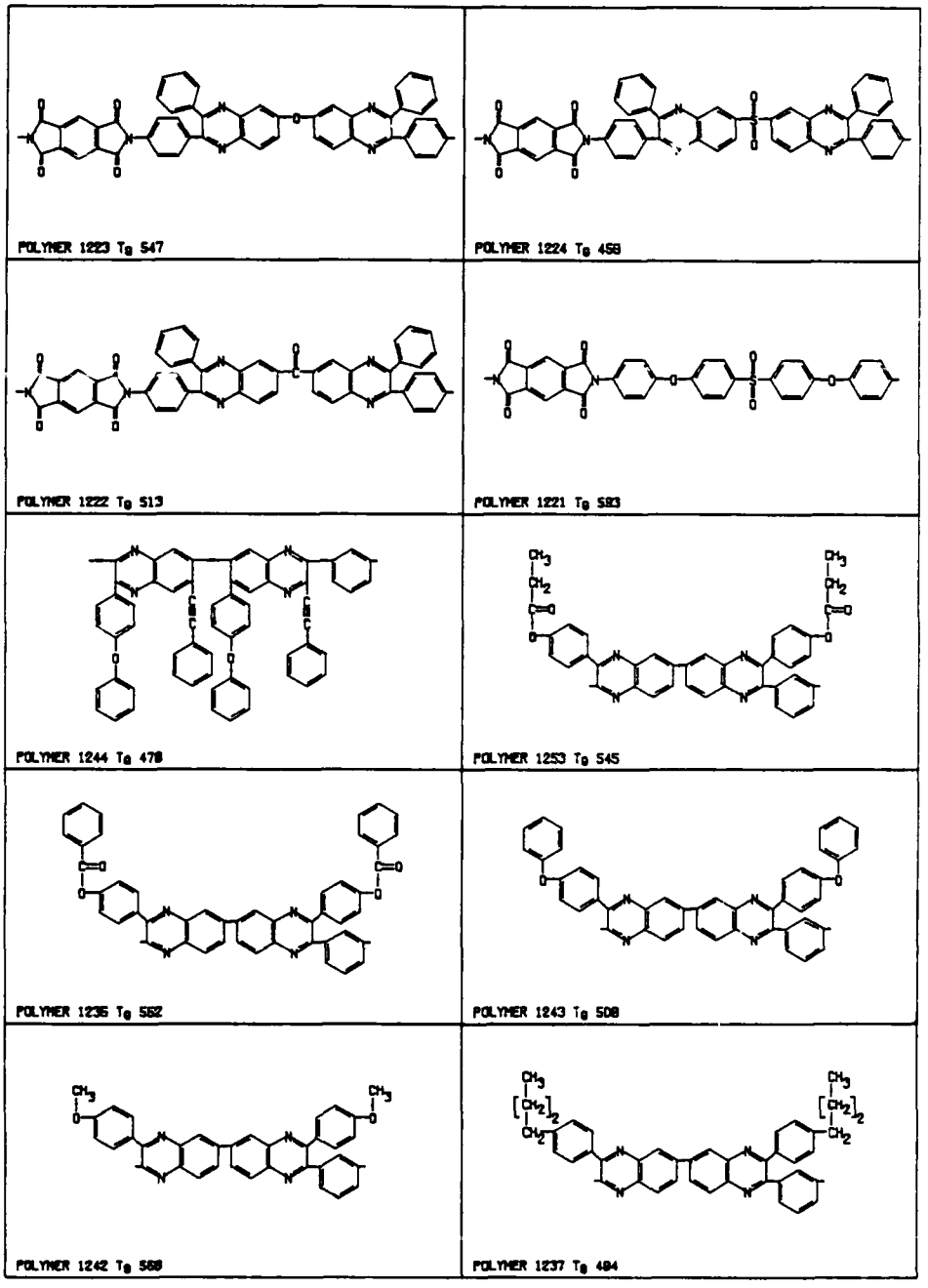

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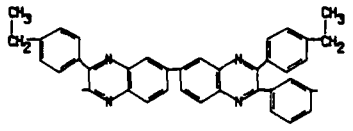
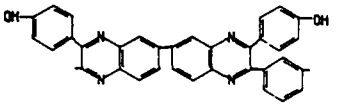
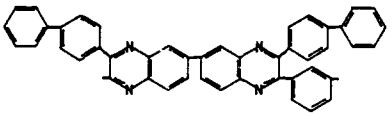
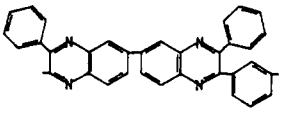
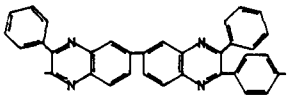
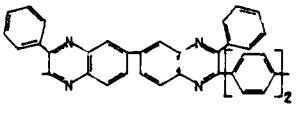
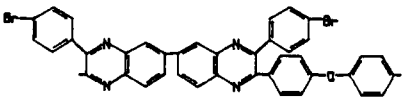
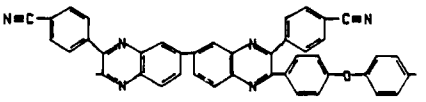
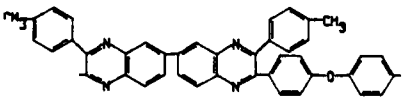
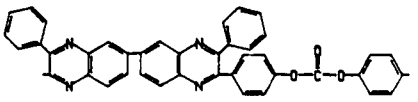
 POLYMER 1240 Tg 55:	 POLYMER 1241 Tg 638
 POLYMER 1236 Tg 588	 POLYMER 1246 Tg 583
 POLYMER 1259 Tg 638	 POLYMER 1245 Tg 677
 POLYMER 1233 Tg 576	 POLYMER 1239 Tg 603
 POLYMER 1234 Tg 428	 POLYMER 1248 Tg 537

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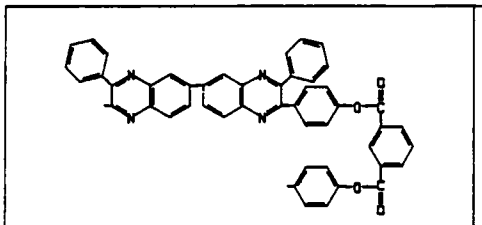

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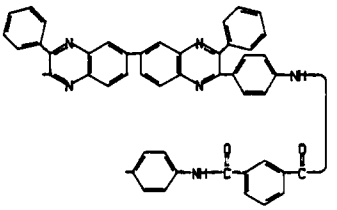

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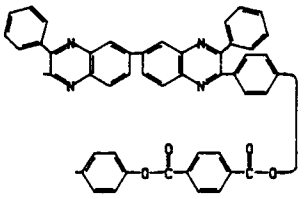

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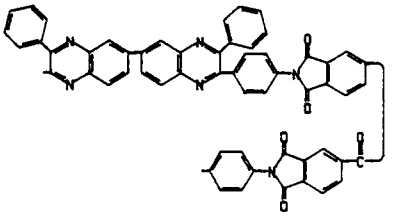

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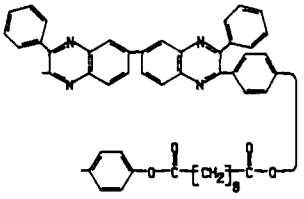

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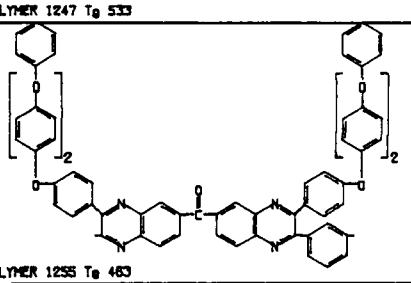

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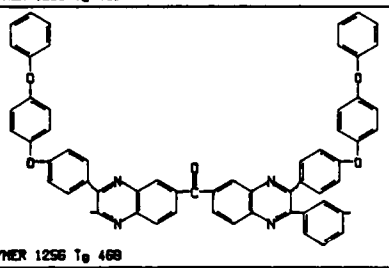

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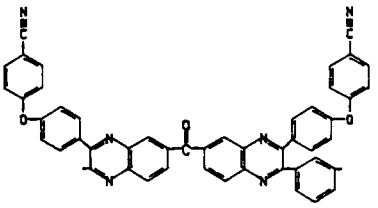

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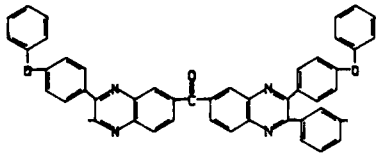

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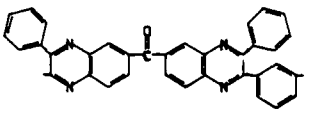

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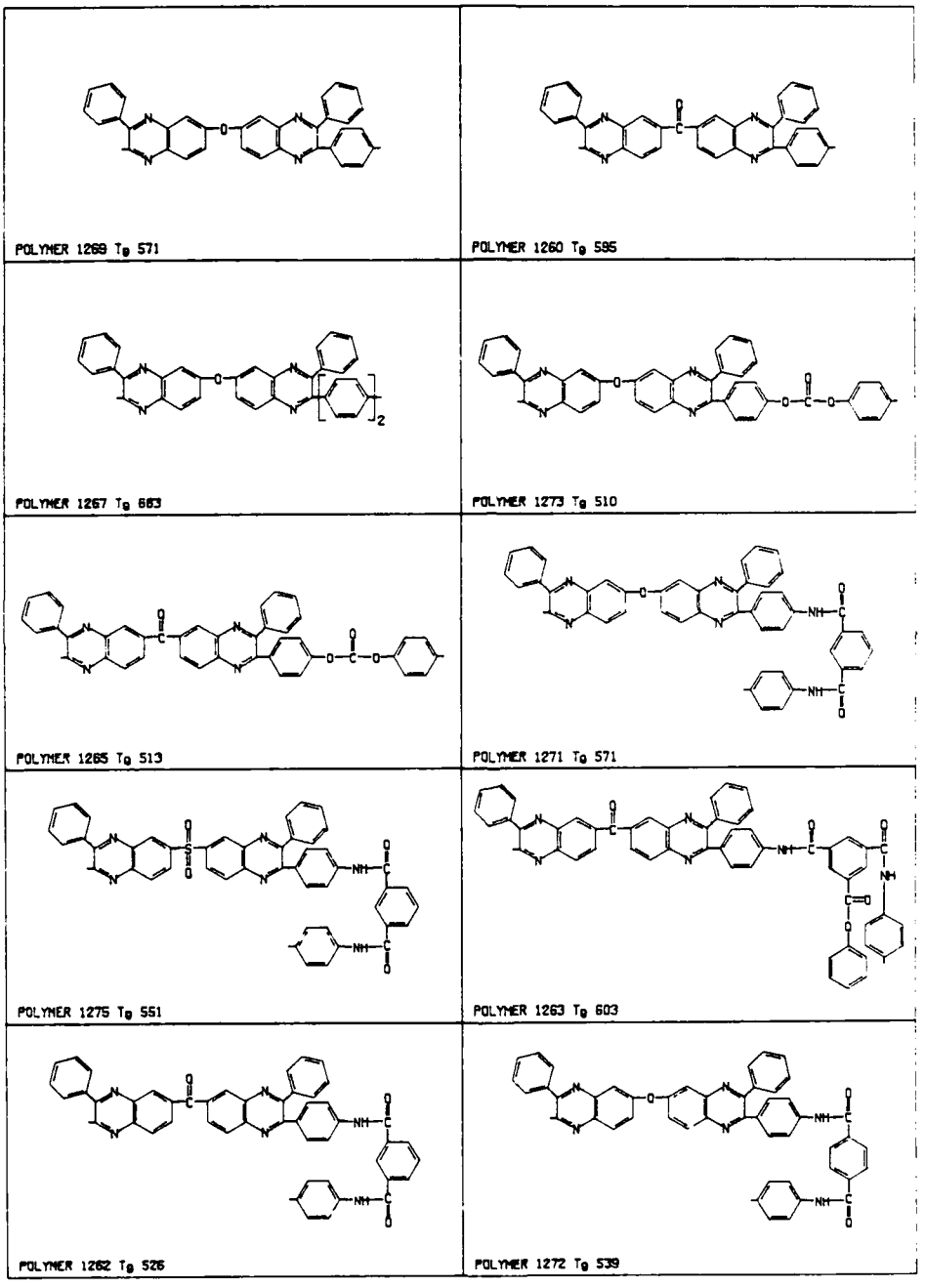

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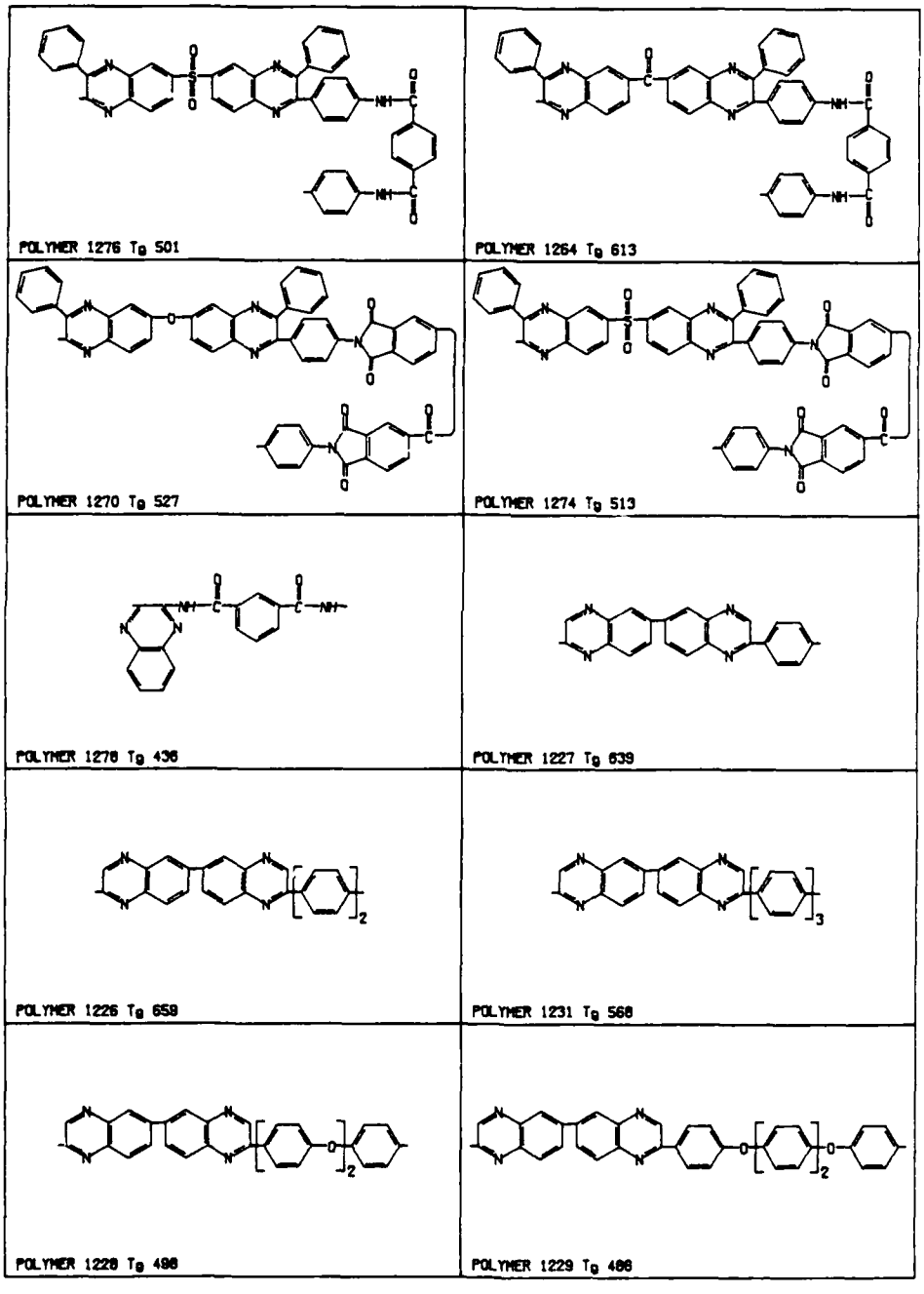

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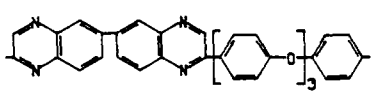
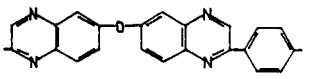
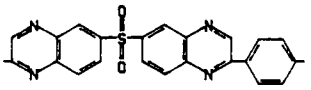
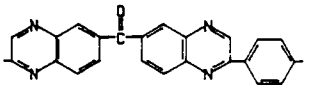
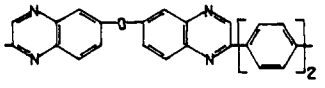
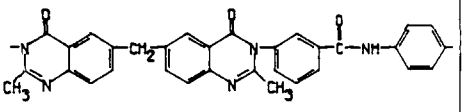
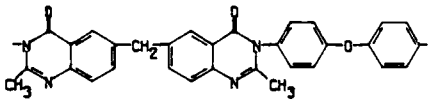
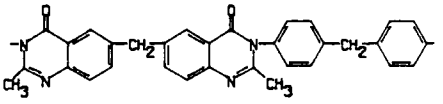
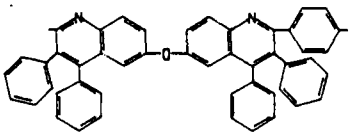
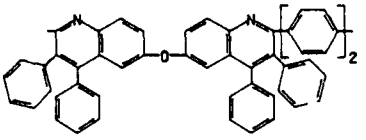
 POLYMER 1232 Tg 479	 POLYMER 1280 Tg 569
 POLYMER 1282 Tg 605	 POLYMER 1277 Tg 581
 POLYMER 1279 Tg 663	 POLYMER 1209 Tg 487
 POLYMER 1211 Tg 511	 POLYMER 1210 Tg 531
 POLYMER 1288 Tg 608	 POLYMER 1287 Tg 614

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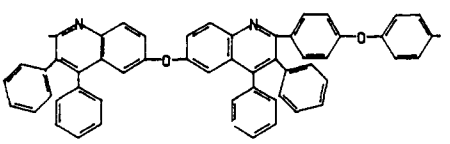
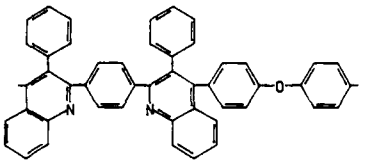
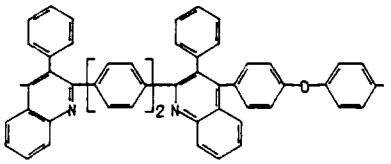
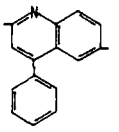
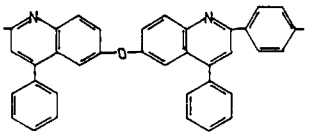
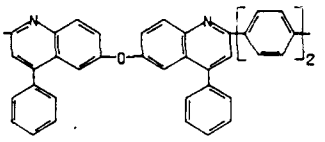
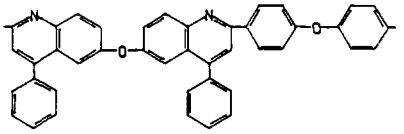
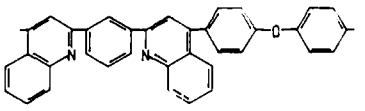
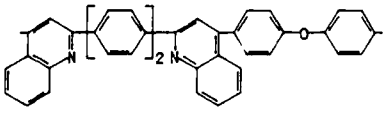
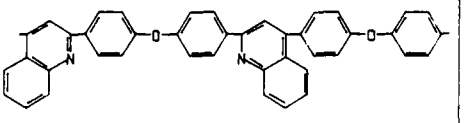
 POLYMER 1289 T_g 568	 POLYMER 1295 T_g 536
 POLYMER 1294 T_g 608	 POLYMER 1290 T_g 678
 POLYMER 1292 T_g 563	 POLYMER 1291 T_g 571
 POLYMER 1293 T_g 529	 POLYMER 1297 T_g 531
 POLYMER 1296 T_g 589	 POLYMER 1298 T_g 539

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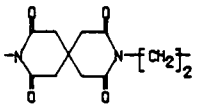
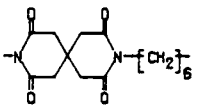
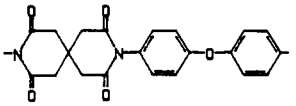
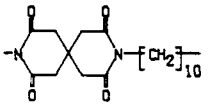
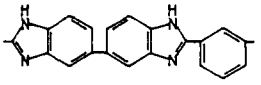
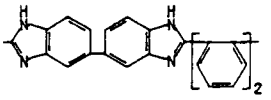
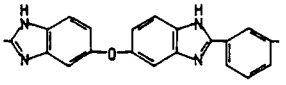
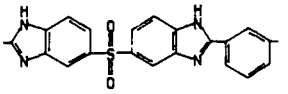
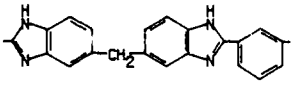
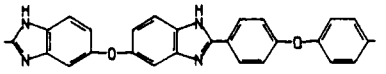
 POLYMER 1284 T_g 468	 POLYMER 1285 T_g 388
 POLYMER 1286 T_g 463	 POLYMER 1283 T_g 341
 POLYMER 1305 T_g 703	 POLYMER 1308 T_g 663
 POLYMER 1301 T_g 503	 POLYMER 1303 T_g 553
 POLYMER 1299 T_g 488	 POLYMER 1302 T_g 533

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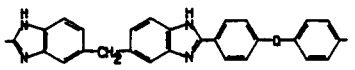
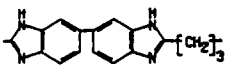
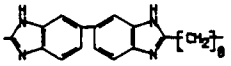
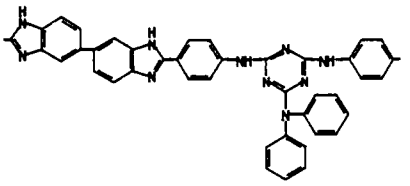
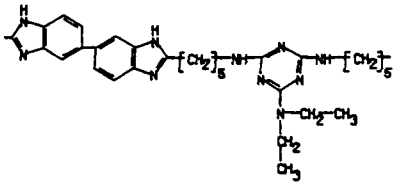
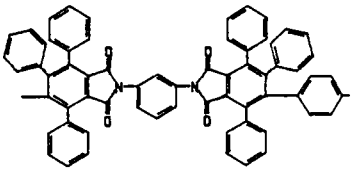
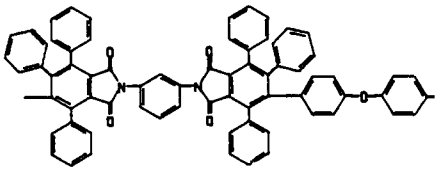
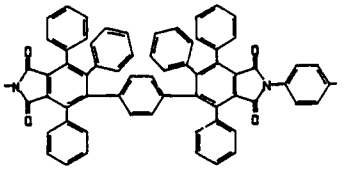
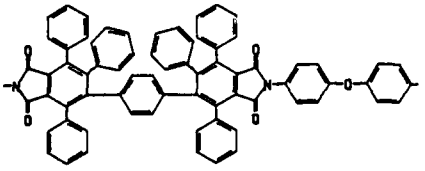
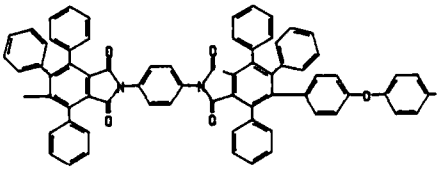
 POLYMER 1300 T_g 503	 POLYMER 487 T_g 548
 POLYMER 488 T_g 507	 POLYMER 1306 T_g 602
 POLYMER 1304 T_g 483	 POLYMER 1377 T_g 689
 POLYMER 1381 T_g 629	 POLYMER 1378 T_g 739
 POLYMER 1379 T_g 686	 POLYMER 1382 T_g 644

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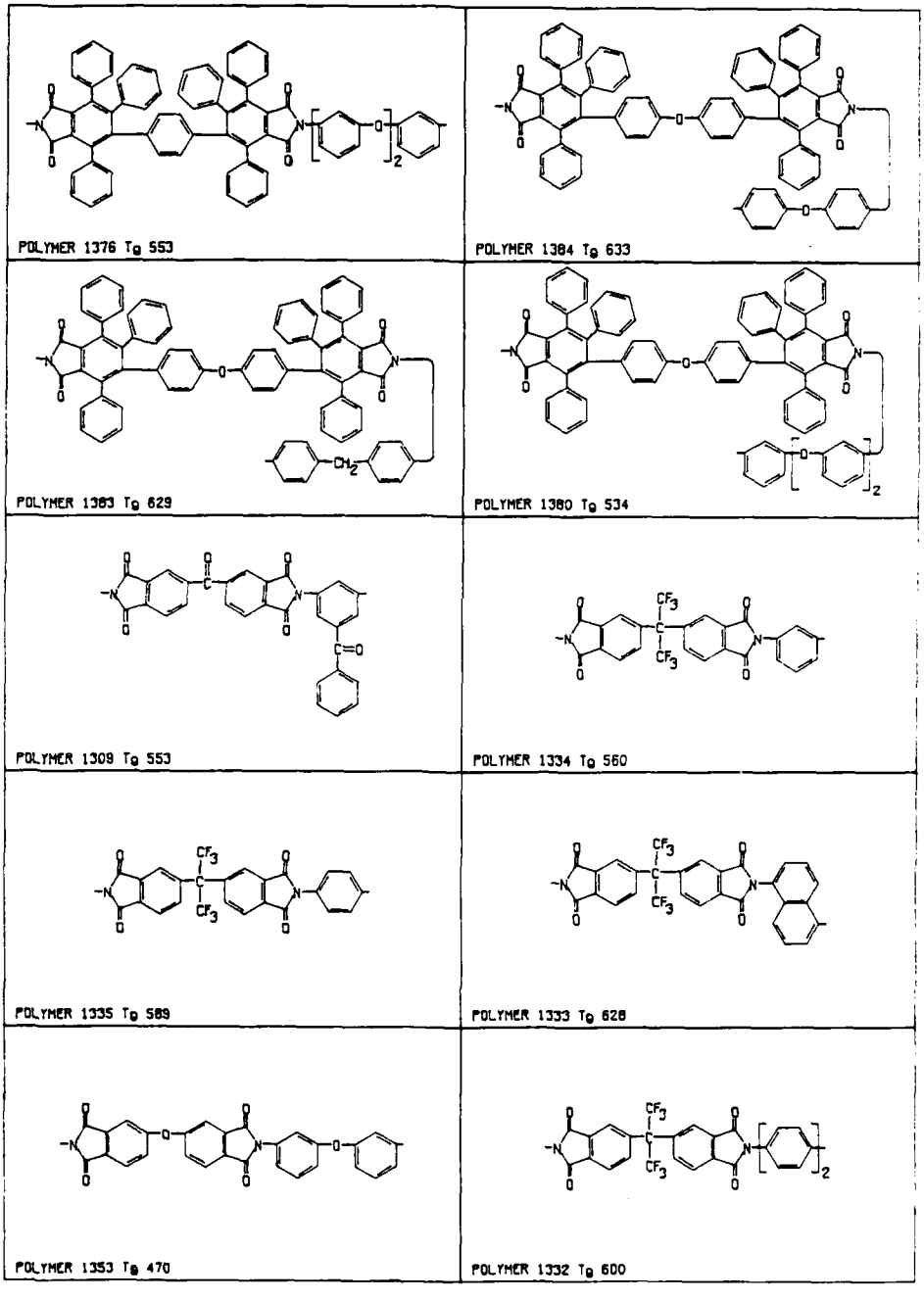

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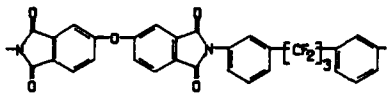
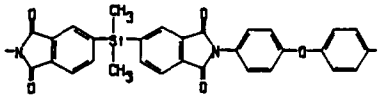
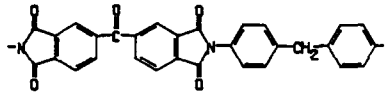
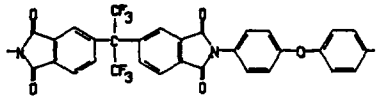
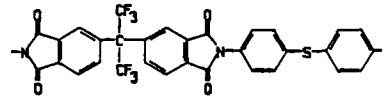
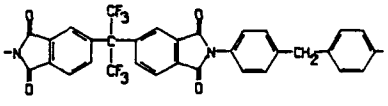
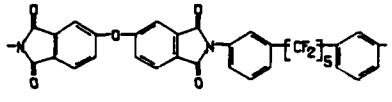
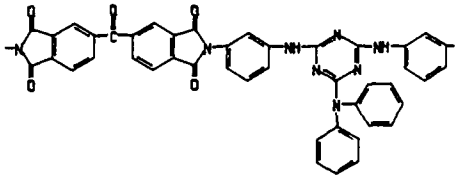
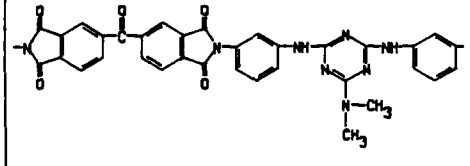
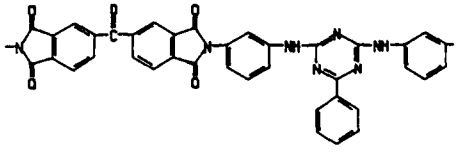
 POLYMER 556 Tg 447	 POLYMER 1328 Tg 544
 POLYMER 1317 Tg 563	 POLYMER 1337 Tg 548
 POLYMER 1338 Tg 546	 POLYMER 1336 Tg 554
 POLYMER 566 Tg 383	 POLYMER 1313 Tg 563
 POLYMER 1312 Tg 567	 POLYMER 1314 Tg 565

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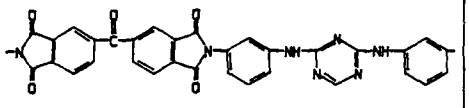
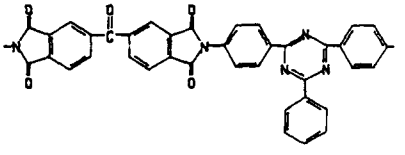
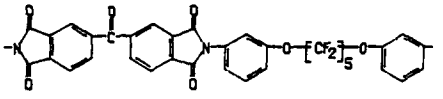
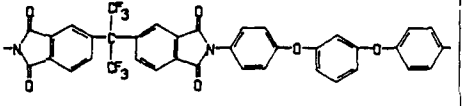
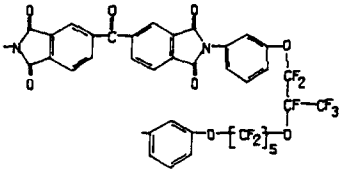
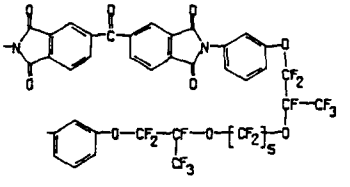
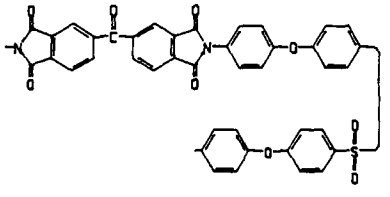
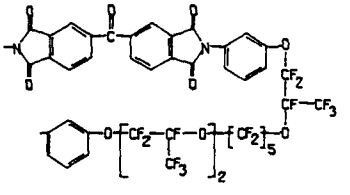
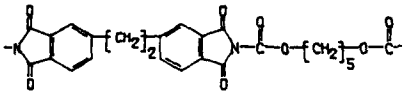
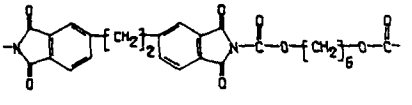
 POLYMER 1315 T_g 563	 POLYMER 1319 T_g 628
 POLYMER 1386 T_g 403	 POLYMER 1338 T_g 492
 POLYMER 1387 T_g 383	 POLYMER 1385 T_g 383
 POLYMER 1318 T_g 533	 POLYMER 1582 T_g 353
 POLYMER 1327 T_g 388	 POLYMER 1328 T_g 383

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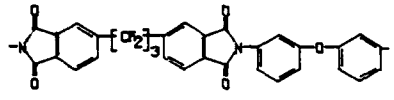
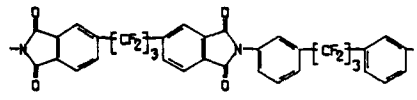
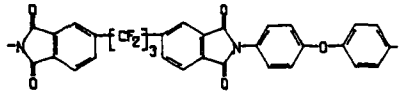
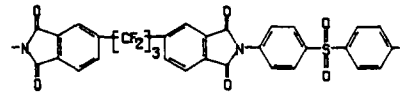
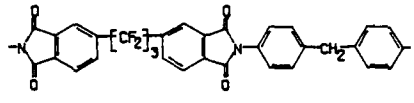
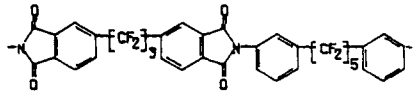
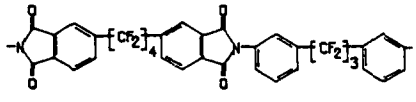
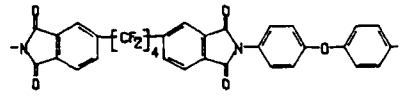
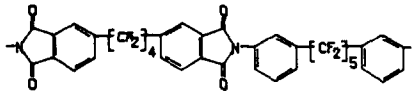
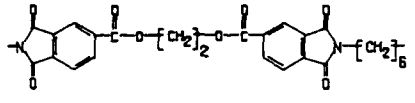
 POLYMER 554 Tg 441	 POLYMER 359 Tg 418
 POLYMER 362 Tg 483	 POLYMER 630 Tg 522
 POLYMER 780 Tg 488	 POLYMER 358 Tg 371
 POLYMER 550 Tg 422	 POLYMER 555 Tg 475
 POLYMER 549 Tg 407	 POLYMER 1322 Tg 371

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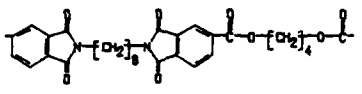
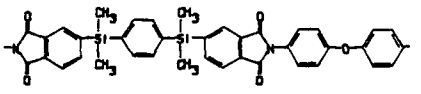
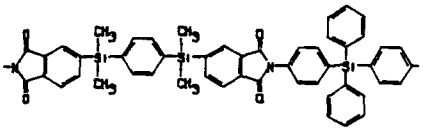
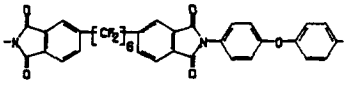
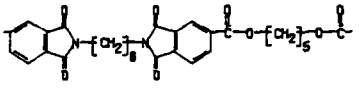
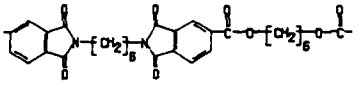
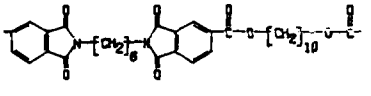
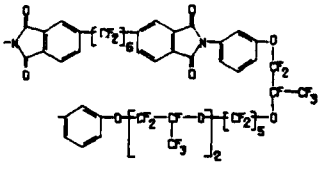
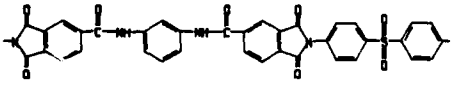
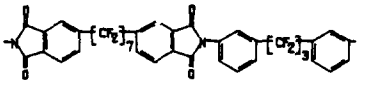
 POLYMER 1343 Tg 353	 POLYMER 1330 Tg 504
 POLYMER 1329 Tg 453	 POLYMER 796 Tg 448
 POLYMER 1342 Tg 348	 POLYMER 1341 Tg 340
 POLYMER 1340 Tg 318	 POLYMER 1563 Tg 333
 POLYMER 1320 Tg 884	 POLYMER 582 Tg 388

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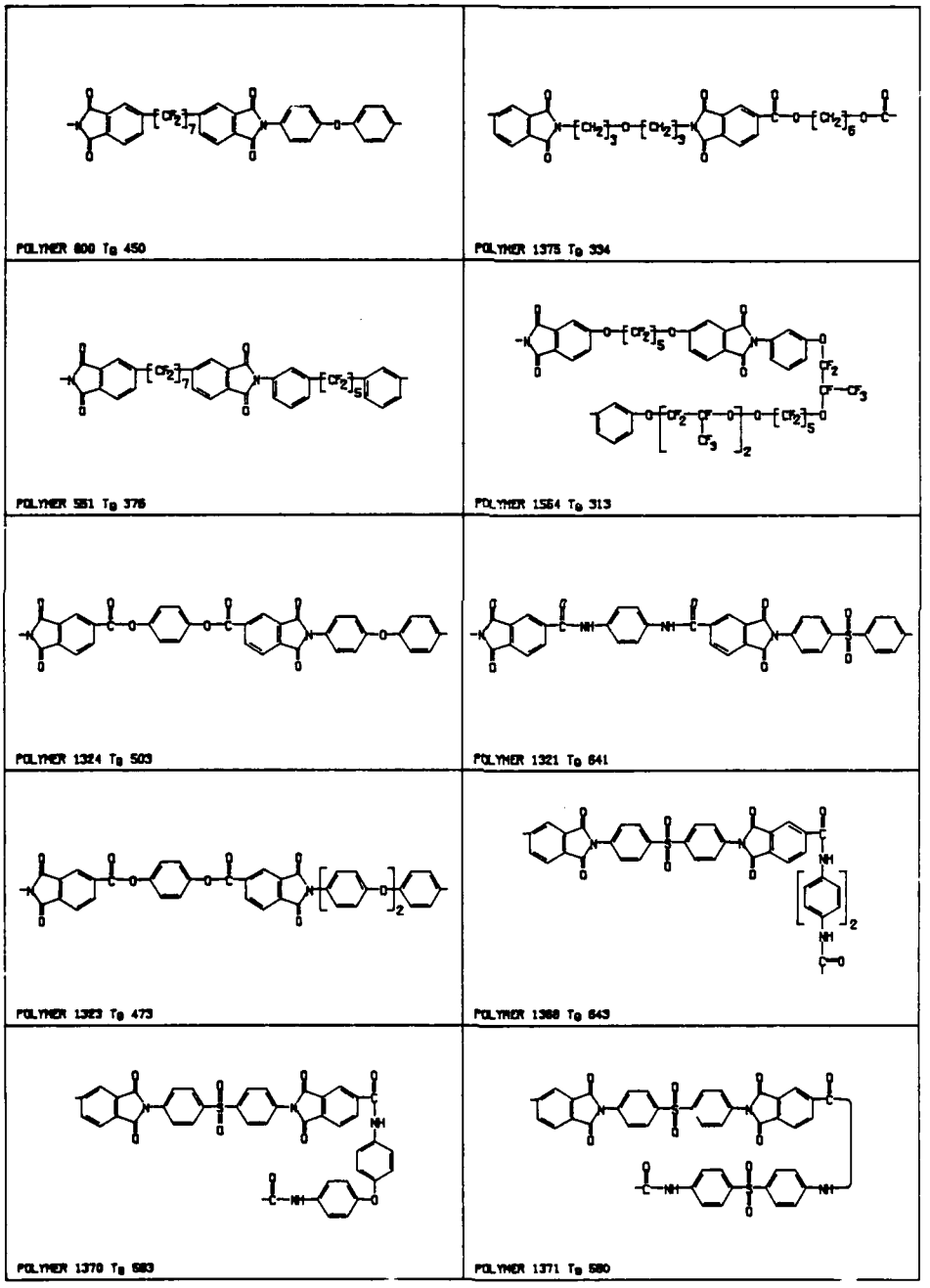

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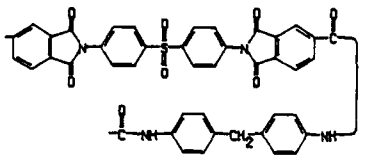
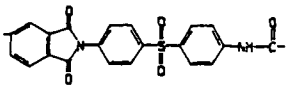
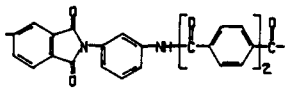
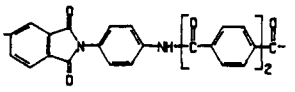
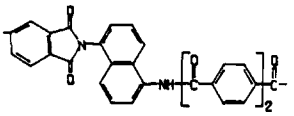
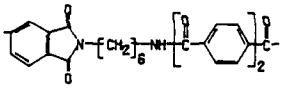
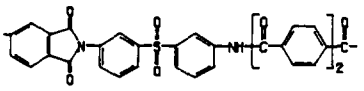
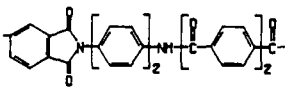
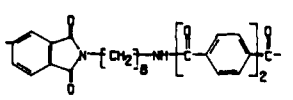
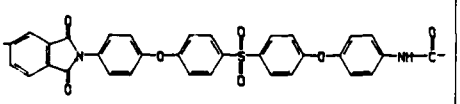
 POLYMER 1368 Tg 587	 POLYMER 1373 Tg 613
 POLYMER 1361 Tg 588	 POLYMER 1362 Tg 613
 POLYMER 1307 Tg 528	 POLYMER 1344 Tg 488
 POLYMER 1372 Tg 467	 POLYMER 1308 Tg 603
 POLYMER 1345 Tg 508	 POLYMER 1386 Tg 543

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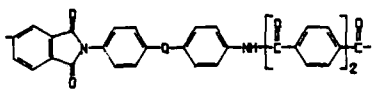
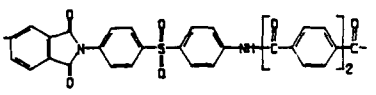
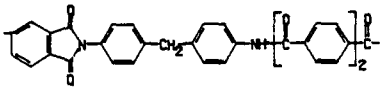
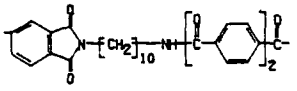
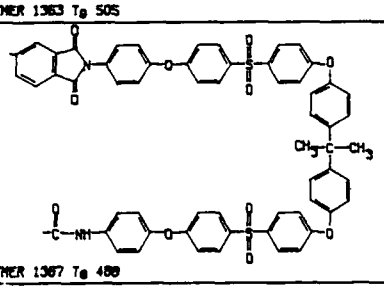
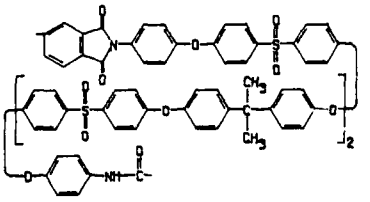
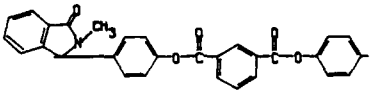
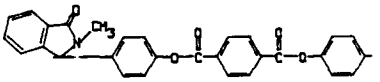
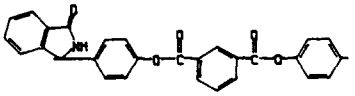
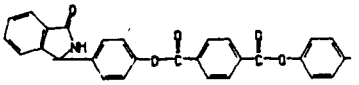
 POLYMER 1364 T_g 483	 POLYMER 1374 T_g 535
 POLYMER 1383 T_g 505	 POLYMER 1325 T_g 494
 POLYMER 1387 T_g 488	 POLYMER 1385 T_g 473
 POLYMER 1508 T_g 548	 POLYMER 1510 T_g 545
 POLYMER 1511 T_g 588	 POLYMER 1512 T_g 590

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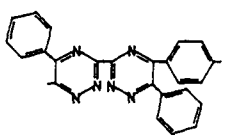
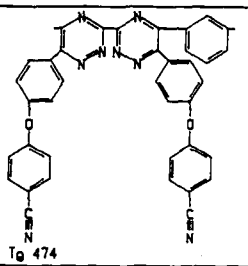
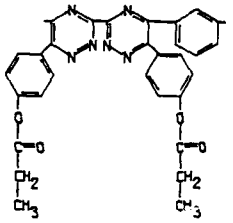
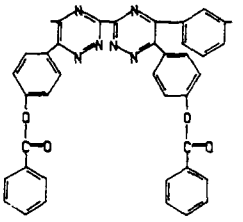
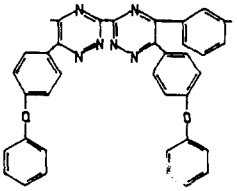
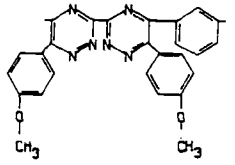
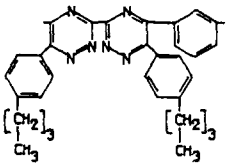
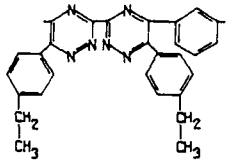
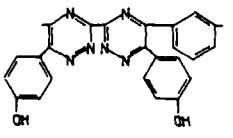
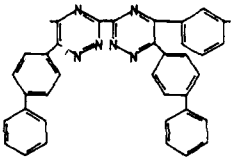
 POLYMER 1440 Tg 565	 POLYMER 1432 Tg 474
 POLYMER 1446 Tg 504	 POLYMER 1427 Tg 521
 POLYMER 1438 Tg 478	 POLYMER 1436 Tg 516
 POLYMER 1430 Tg 477	 POLYMER 1434 Tg 495
 POLYMER 1435 Tg 600	 POLYMER 1428 Tg 536

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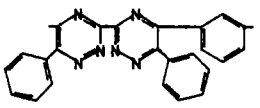
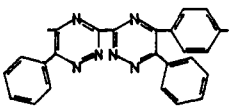
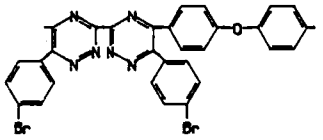
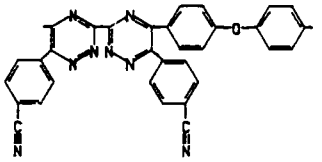
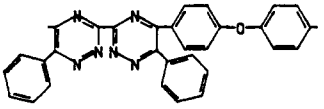
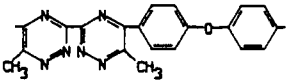
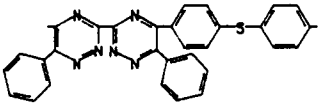
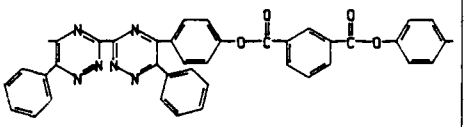
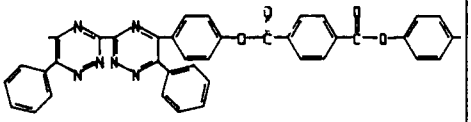
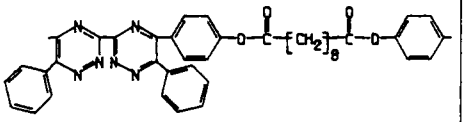
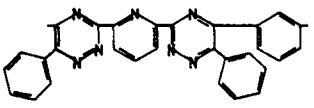
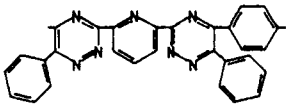
 POLYMER 1439 Tg 558	 POLYMER 1441 Tg 576
 POLYMER 1429 Tg 580	 POLYMER 1433 Tg 556
 POLYMER 1443 Tg 533	 POLYMER 1437 Tg 483
 POLYMER 1444 Tg 523	 POLYMER 1445 Tg 527
 POLYMER 1559 Tg 530	 POLYMER 1442 Tg 441
 POLYMER 1458 Tg 530	 POLYMER 1459 Tg 550

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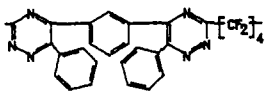
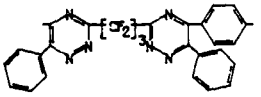
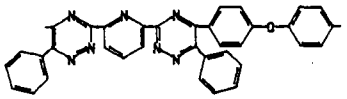
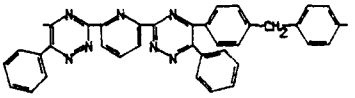
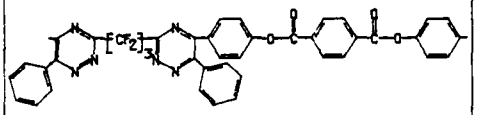
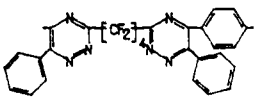
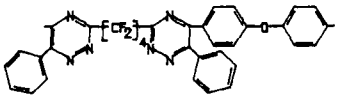
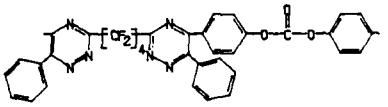
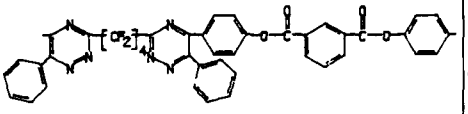
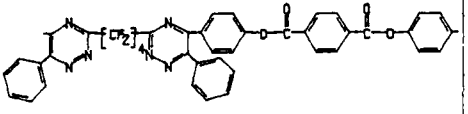
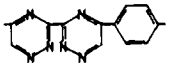
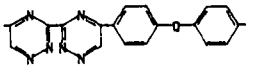
 POLYMER 1448 T_g 417	 POLYMER 1454 T_g 453
 POLYMER 1461 T_g 493	 POLYMER 1460 T_g 468
 POLYMER 1455 T_g 438	 POLYMER 1449 T_g 433
 POLYMER 1453 T_g 428	 POLYMER 1450 T_g 418
 POLYMER 1451 T_g 436	 POLYMER 1452 T_g 441
 POLYMER 1423 T_g 523	 POLYMER 1424 T_g 507

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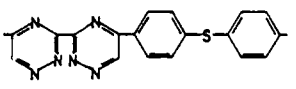
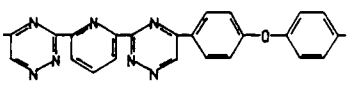
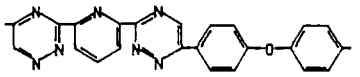
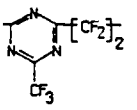
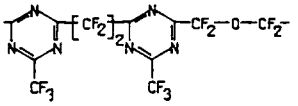
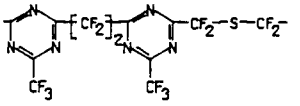
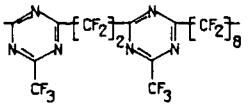
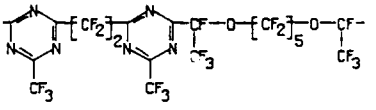
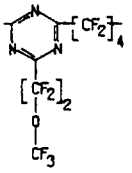
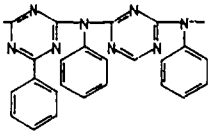
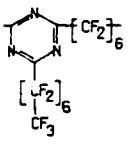
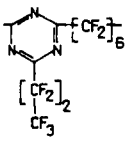
 POLYMER 1425 T_g 503	 POLYMER 1462 T_g 483
 POLYMER 1463 T_g 486	 POLYMER 756 T_g 302
 POLYMER 825 T_g 276	 POLYMER 826 T_g 275
 POLYMER 827 T_g 270	 POLYMER 828 T_g 266
 POLYMER 966 T_g 255	 POLYMER 1457 T_g 542
 POLYMER 754 T_g 249	 POLYMER 755 T_g 258

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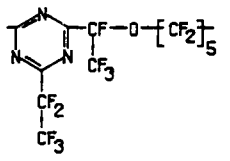
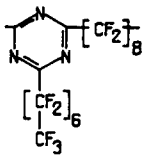
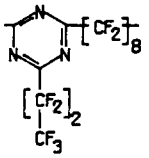
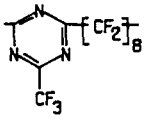
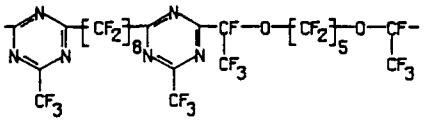
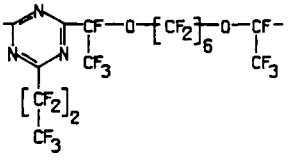
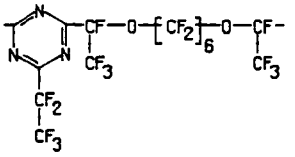
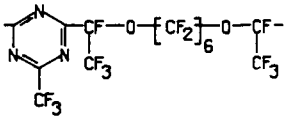
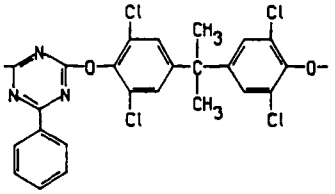
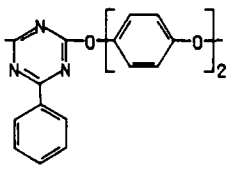
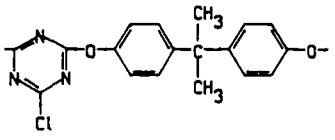
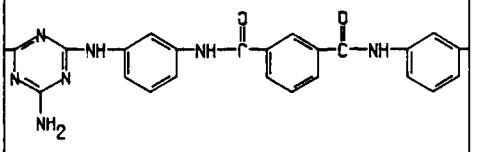
 POLYMER 968 Tg 263	 POLYMER 753 Tg 254
 POLYMER 751 Tg 269	 POLYMER 752 Tg 245
 POLYMER 757 Tg 257	 POLYMER 967 Tg 257
 POLYMER 964 Tg 259	 POLYMER 965 Tg 260
 POLYMER 1456 Tg 477	 POLYMER 1447 Tg 441
 POLYMER 1426 Tg 403	 POLYMER 1417 Tg 543

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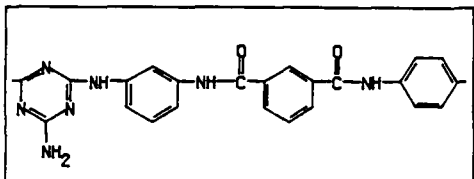

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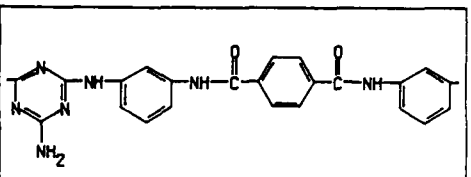

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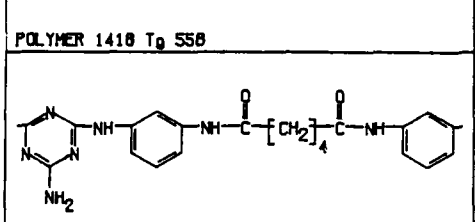

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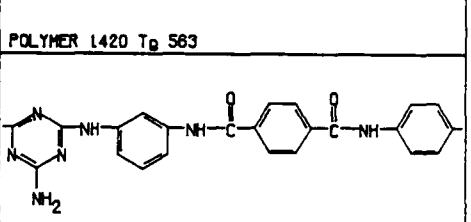

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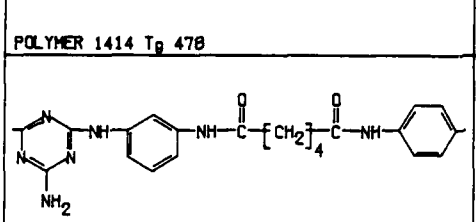

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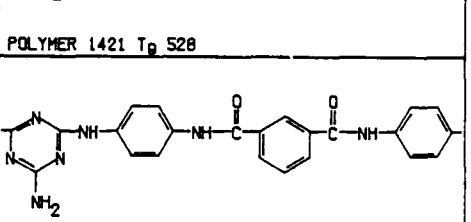

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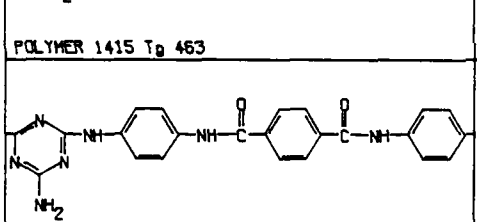

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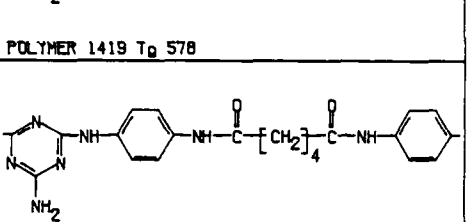

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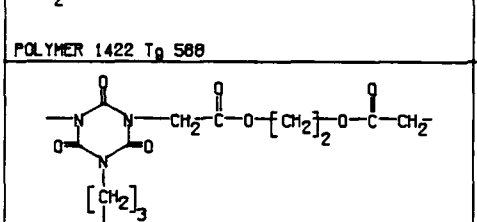
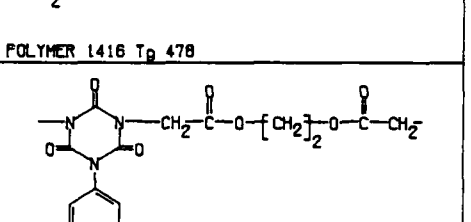


POLYMER 1471 Tg 328



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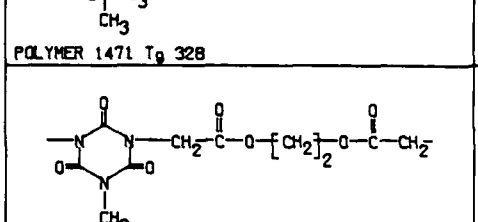
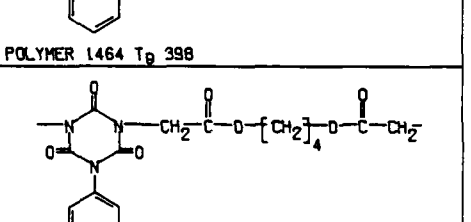


POLYMER 1473 Tg 363



POLYMER 1467 Tg 367

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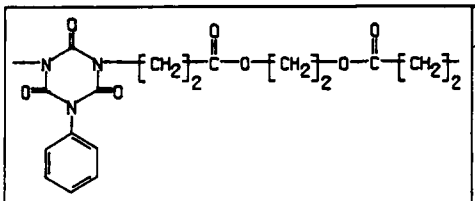
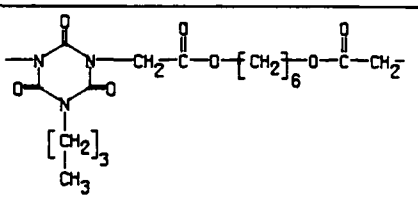
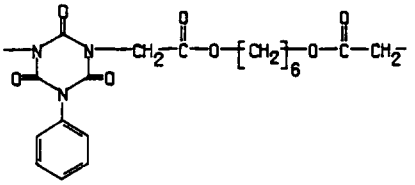
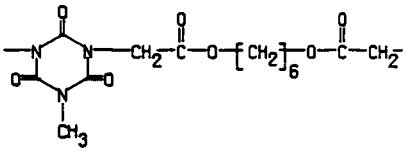
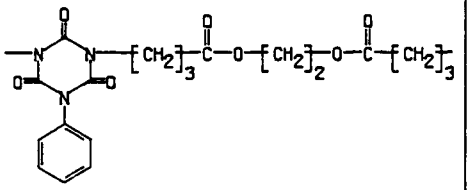
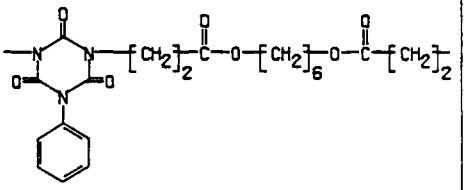
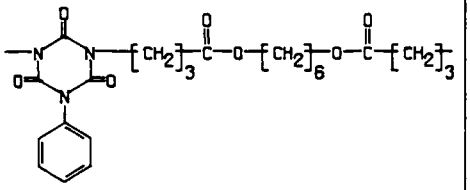
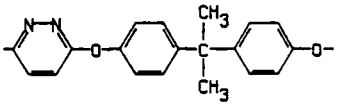
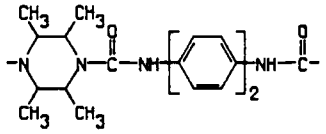
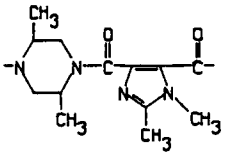
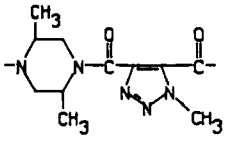
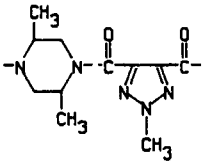
 POLYMER 1465 T_g 338	 POLYMER 1472 T_g 283
 POLYMER 1468 T_g 348	 POLYMER 1474 T_g 313
 POLYMER 1466 T_g 333	 POLYMER 1469 T_g 308
 POLYMER 1470 T_g 303	 POLYMER 445 T_g 453
 POLYMER 1507 T_g 463	 POLYMER 1476 T_g 495
 POLYMER 1480 T_g 545	 POLYMER 1481 T_g 502

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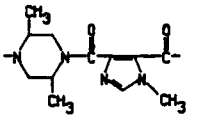
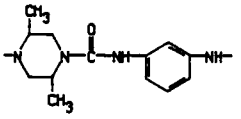
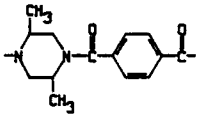
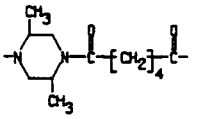
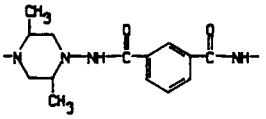
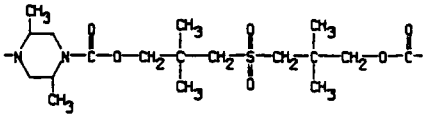
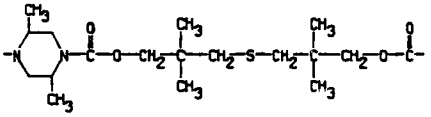
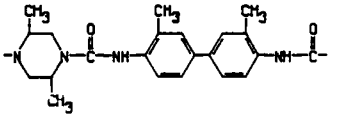
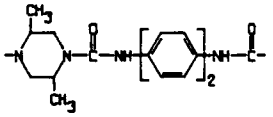
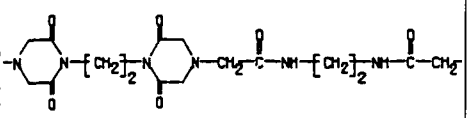
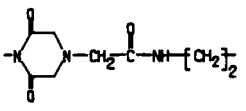
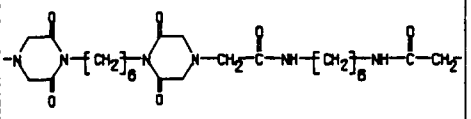
 POLYMER 1479 Tg 410	 POLYMER 1484 Tg 479
 POLYMER 1486 Tg 565	 POLYMER 1475 Tg 363
 POLYMER 1485 Tg 517	 POLYMER 1483 Tg 348
 POLYMER 1482 Tg 303	 POLYMER 1478 Tg 478
 POLYMER 1477 Tg 523	 POLYMER 1488 Tg 376
 POLYMER 1490 Tg 398	 POLYMER 1489 Tg 338

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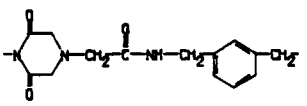
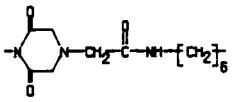
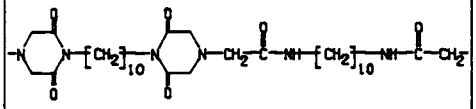
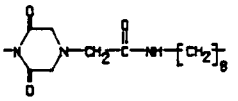
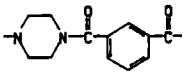
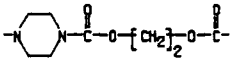
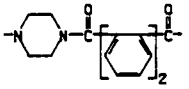
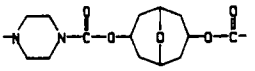
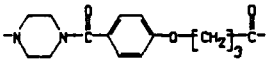
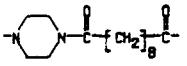
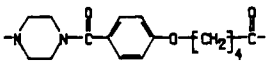
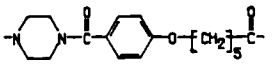
 POLYMER 1492 Tg 383	 POLYMER 1481 Tg 328
 POLYMER 1487 Tg 337	 POLYMER 1493 Tg 331
 POLYMER 1502 Tg 465	 POLYMER 281 Tg 323
 POLYMER 1495 Tg 466	 POLYMER 1497 Tg 376
 POLYMER 1503 Tg 309	 POLYMER 1505 Tg 355
 POLYMER 1501 Tg 313	 POLYMER 1500 Tg 323

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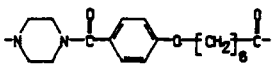
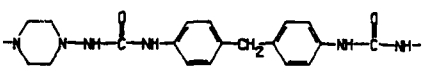
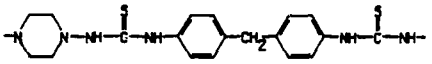
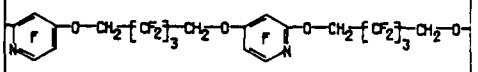
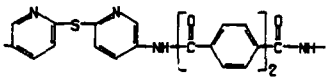
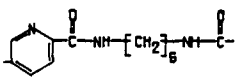
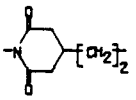
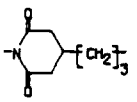
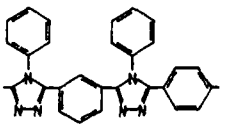
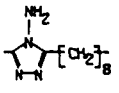
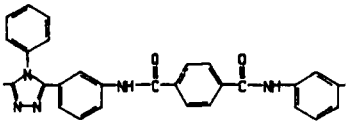
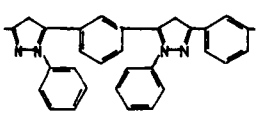
 POLYMER 1488 Tg 314	 POLYMER 1506 Tg 451
 POLYMER 1504 Tg 466	 POLYMER 527 Tg 253
 POLYMER 1513 Tg 295	 POLYMER 1508 Tg 353
 POLYMER 1515 Tg 436	 POLYMER 1514 Tg 354
 POLYMER 480 Tg 538	 POLYMER 1516 Tg 361
 POLYMER 1517 Tg 340	 POLYMER 1518 Tg 503

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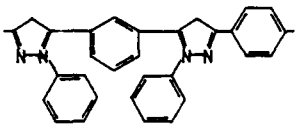
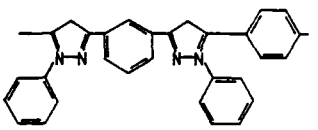
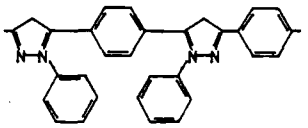
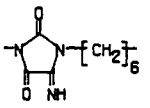
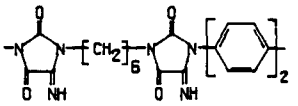
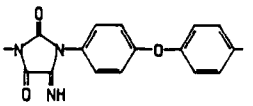
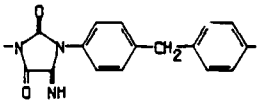
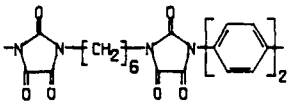
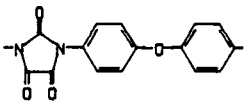
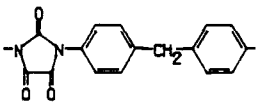
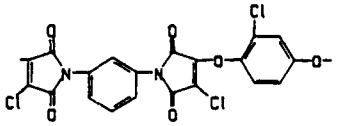
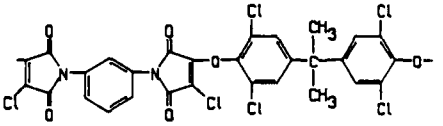
 POLYMER 1521 T_g 508	 POLYMER 1520 T_g 513
 POLYMER 1519 T_g 518	 POLYMER 1528 T_g 293
 POLYMER 1527 T_g 458	 POLYMER 1525 T_g 508
 POLYMER 1526 T_g 499	 POLYMER 1524 T_g 503
 POLYMER 1523 T_g 561	 POLYMER 1522 T_g 552
 POLYMER 1538 T_g 467	 POLYMER 1536 T_g 495

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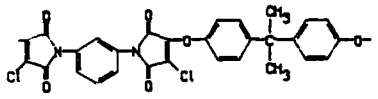
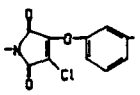
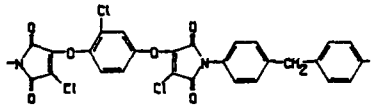
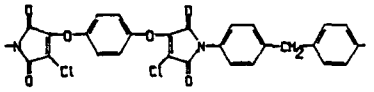
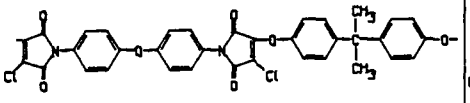
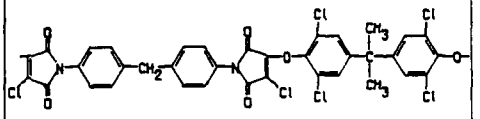
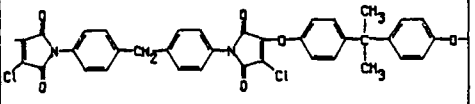
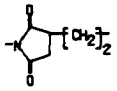
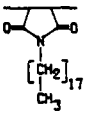
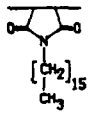
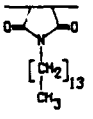
 POLYMER 1535 Tg 430	 POLYMER 1539 Tg 427
 POLYMER 1534 Tg 457	 POLYMER 1532 Tg 465
 POLYMER 1537 Tg 447	 POLYMER 1533 Tg 486
 POLYMER 1531 Tg 448	 POLYMER 1530 Tg 473
 POLYMER 1529 Tg 398	 POLYMER 1397 Tg 348
 POLYMER 1396 Tg 348	 POLYMER 1395 Tg 351

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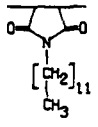
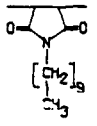
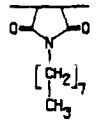
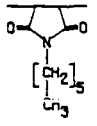
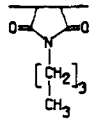
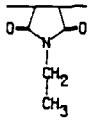
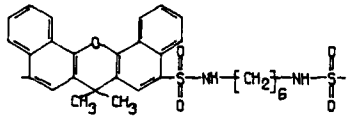
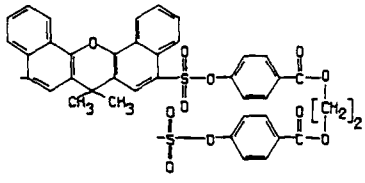
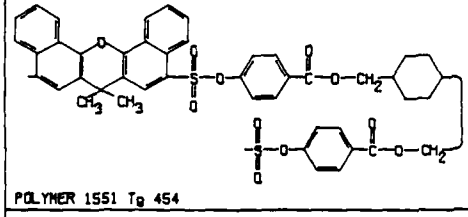
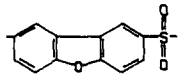
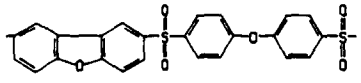
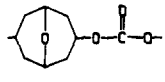
 POLYMER 1394 Tg 355	 POLYMER 1393 Tg 368
 POLYMER 1392 Tg 393	 POLYMER 1391 Tg 422
 POLYMER 1390 Tg 461	 POLYMER 1389 Tg 524
 POLYMER 1553 Tg 469	 POLYMER 1552 Tg 413
 POLYMER 1551 Tg 454	 POLYMER 1554 Tg 633
 POLYMER 1565 Tg 563	 POLYMER 1547 Tg 470

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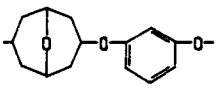
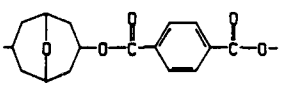
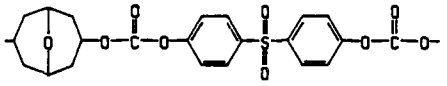
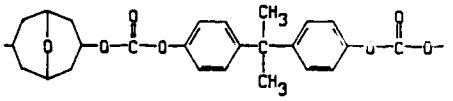
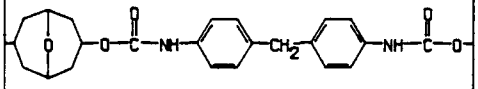
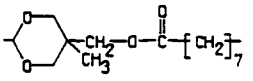
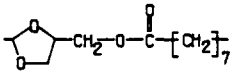
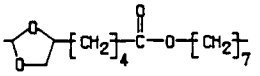
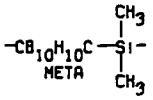
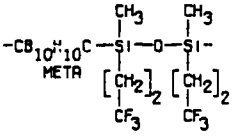
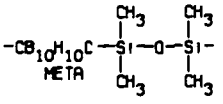
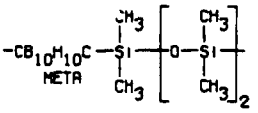
 POLYMER 1550 T_g 376	 POLYMER 1549 T_g 470
 POLYMER 1546 T_g 447	 POLYMER 1545 T_g 457
 POLYMER 1548 T_g 463	 POLYMER 960 T_g 237
 POLYMER 958 T_g 240	 POLYMER 959 T_g 231
 POLYMER 1540 T_g 376	 POLYMER 1104 T_g 291
 POLYMER 510 T_g 298	 POLYMER 508 T_g 239

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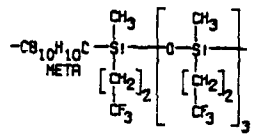
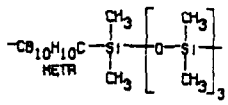
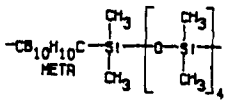
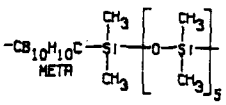
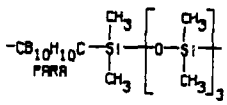
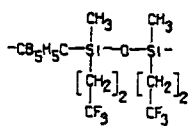
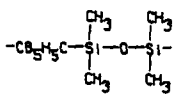
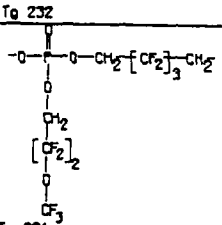
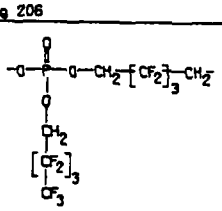
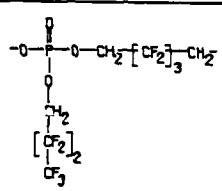
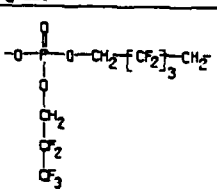
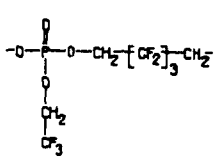
 POLYMER 1105 Tg 260	 POLYMER 509 Tg 208
 POLYMER 1542 Tg 198	 POLYMER 1544 Tg 185
 POLYMER 1541 Tg 238	 POLYMER 1103 Tg 232
 POLYMER 975 Tg 206	 POLYMER 1094 Tg 221
 POLYMER 1093 Tg 221	 POLYMER 1092 Tg 224
 POLYMER 1091 Tg 221	 POLYMER 1090 Tg 221

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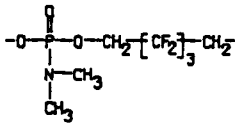
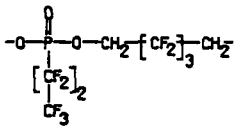
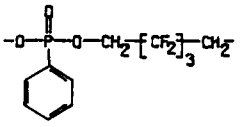
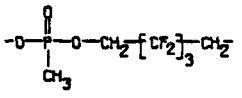
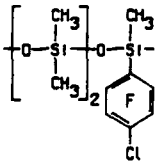
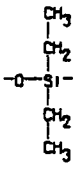
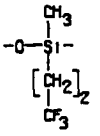
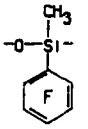
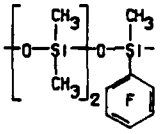
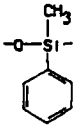
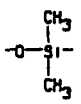
 POLYMER 1098 Tg 239	 POLYMER 1096 Tg 248
 POLYMER 1097 Tg 254	 POLYMER 1095 Tg 247
 POLYMER 804 Tg 198	 POLYMER 930 Tg 120
 POLYMER 560 Tg 190	 POLYMER 800 Tg 248
 POLYMER 803 Tg 190	 POLYMER 841 Tg 180
 POLYMER 837 Tg 146	 POLYMER 311 Tg 243

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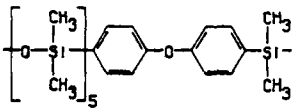
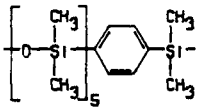
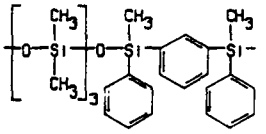
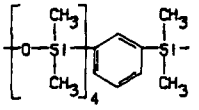
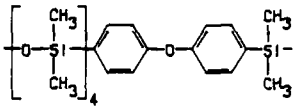
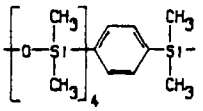
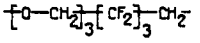
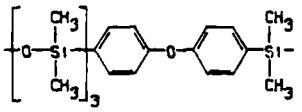
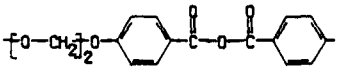
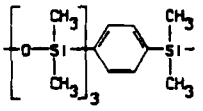
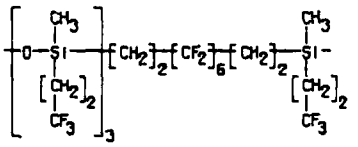
 POLYMER 344 T_g 191	 POLYMER 861 T_g 198
 POLYMER 845 T_g 183	 POLYMER 934 T_g 221
 POLYMER 852 T_g 188	 POLYMER 932 T_g 211
 POLYMER 855 T_g 191	 POLYMER 538 T_g 216
 POLYMER 933 T_g 226	 POLYMER 241 T_g 325
 POLYMER 865 T_g 201	 POLYMER 1100 T_g 220

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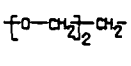
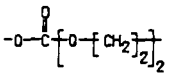
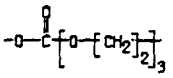
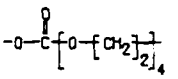
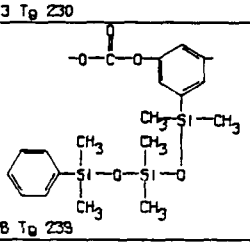
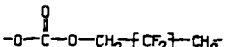
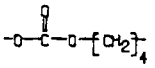
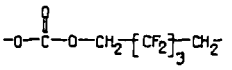
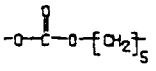
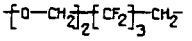
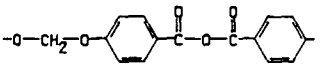
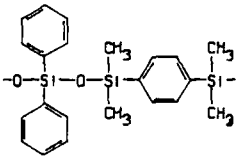
 POLYMER 977 T_g 204	 POLYMER 1114 T_g 246
 POLYMER 1113 T_g 230	 POLYMER 1112 T_g 228
 POLYMER 1108 T_g 239	 POLYMER 1402 T_g 255
 POLYMER 1111 T_g 231	 POLYMER 1109 T_g 236
 POLYMER 1110 T_g 227	 POLYMER 539 T_g 215
 POLYMER 234 T_g 357	 POLYMER 931 T_g 263

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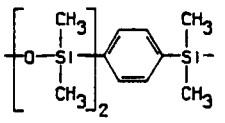
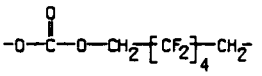
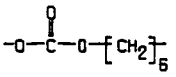
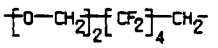
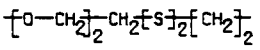
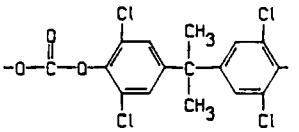
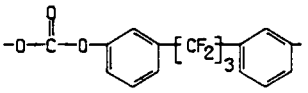
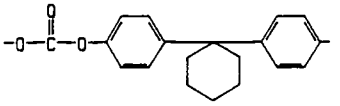
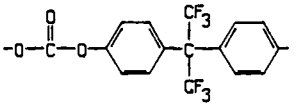
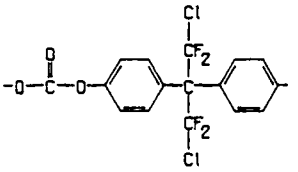
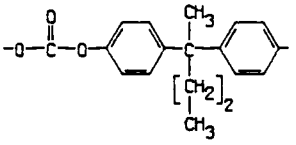
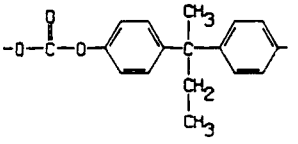
 POLYMER 863 Tg 200	 POLYMER 765 Tg 234
 POLYMER 957 Tg 220	 POLYMER 540 Tg 215
 POLYMER 870 Tg 214	 POLYMER 256 Tg 453
 POLYMER 260 Tg 319	 POLYMER 255 Tg 448
 POLYMER 570 Tg 439	 POLYMER 571 Tg 446
 POLYMER 1555 Tg 410	 POLYMER 252 Tg 407

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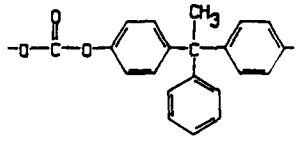
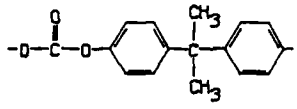
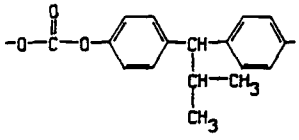
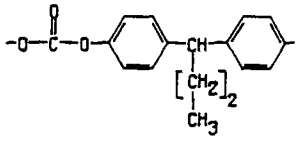
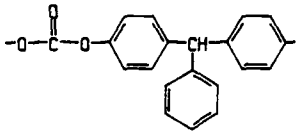
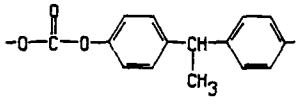
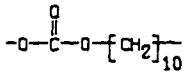
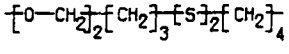
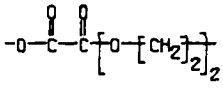
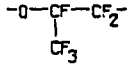
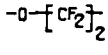
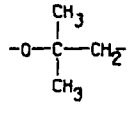
 POLYMER 258 Tg 449	 POLYMER 251 Tg 418
 POLYMER 254 Tg 422	 POLYMER 253 Tg 396
 POLYMER 257 Tg 394	 POLYMER 270 Tg 403
 POLYMER 1401 Tg 219	 POLYMER 849 Tg 197
 POLYMER 271 Tg 265	 POLYMER 1567 Tg 195
 POLYMER 750 Tg 215	 POLYMER 343 Tg 264

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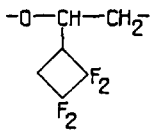
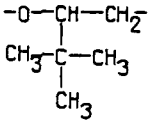
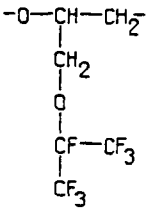
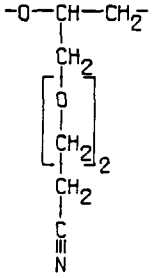
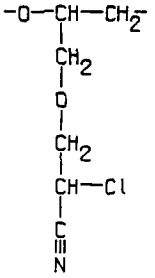
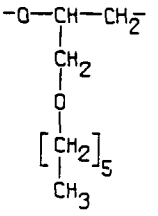
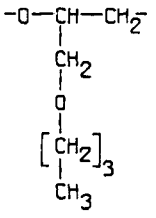
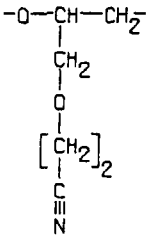
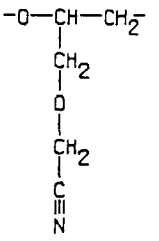
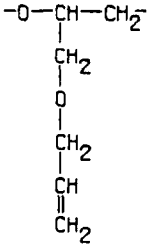
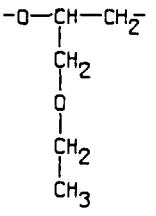
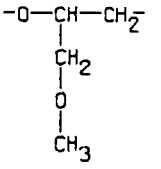
 POLYMER 768 Tg 248	 POLYMER 315 Tg 308	 POLYMER 767 Tg 220
 POLYMER 1068 Tg 231	 POLYMER 1067 Tg 244	 POLYMER 843 Tg 185
 POLYMER 846 Tg 189	 POLYMER 1069 Tg 235	 POLYMER 1070 Tg 245
 POLYMER 847 Tg 195	 POLYMER 866 Tg 207	 POLYMER 864 Tg 206

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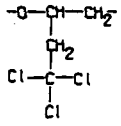
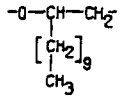
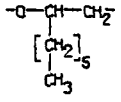
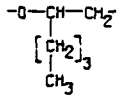
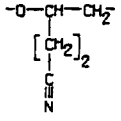
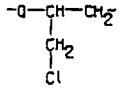
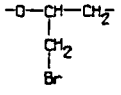
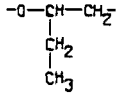
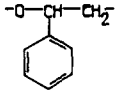
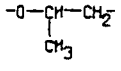
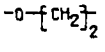
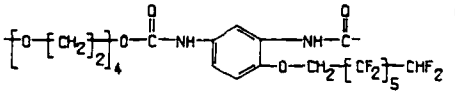
 POLYMER 881 Tg 271	 POLYMER 317 Tg 232
 POLYMER 859 Tg 201	 POLYMER 857 Tg 198
 POLYMER 1071 Tg 250	 POLYMER 880 Tg 246
 POLYMER 879 Tg 254	 POLYMER 314 Tg 203
 POLYMER 346 Tg 314	 POLYMER 345 Tg 198
 POLYMER 318 Tg 206	 POLYMER 883 Tg 195

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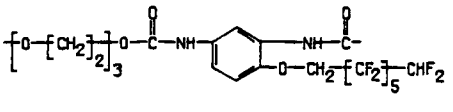
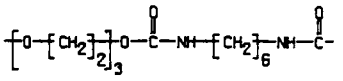
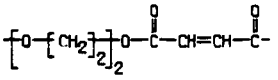
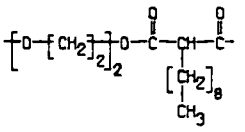
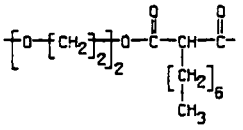
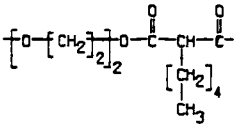
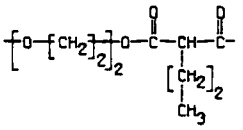
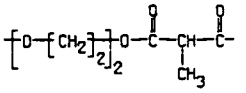
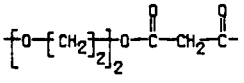
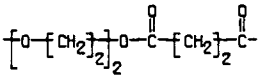
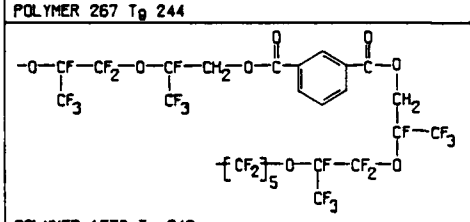
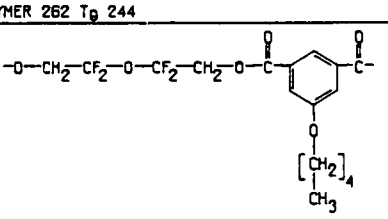
 POLYMER 882 Tg 236	 POLYMER 928 Tg 250
 POLYMER 893 Tg 265	 POLYMER 71 Tg 214
 POLYMER 70 Tg 215	 POLYMER 69 Tg 226
 POLYMER 68 Tg 235	 POLYMER 227 Tg 244
 POLYMER 267 Tg 244	 POLYMER 262 Tg 244
 POLYMER 1570 Tg 249	 POLYMER 829 Tg 277

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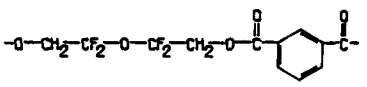
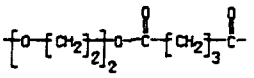
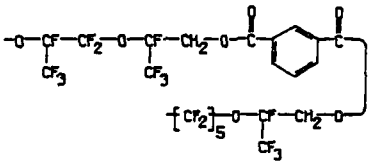
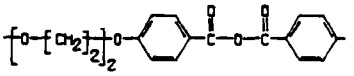
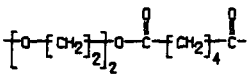
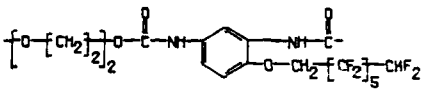
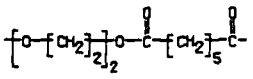
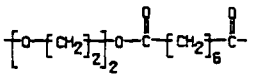
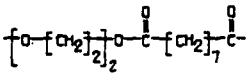
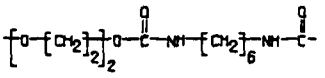
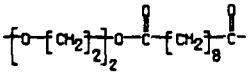
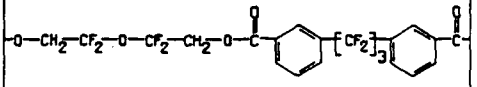
 POLYMER 743 Tg 293	 POLYMER 272 Tg 226
 POLYMER 1569 Tg 252	 POLYMER 242 Tg 314
 POLYMER 266 Tg 227	 POLYMER 884 Tg 283
 POLYMER 264 Tg 213	 POLYMER 270 Tg 212
 POLYMER 268 Tg 205	 POLYMER 927 Tg 267
 POLYMER 263 Tg 199	 POLYMER 599 Tg 299

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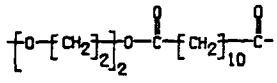
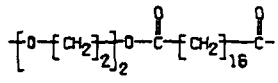
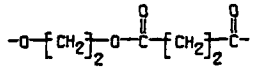
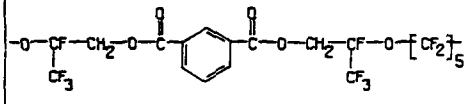
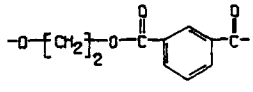
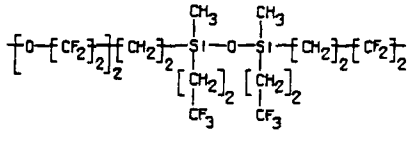
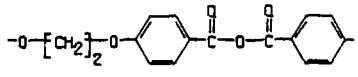
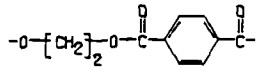
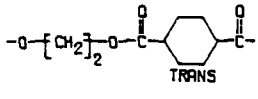
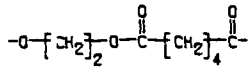
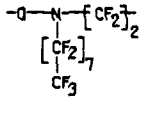
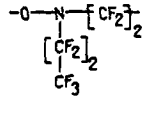
 POLYMER 265 Tg 202	 POLYMER 269 Tg 205
 POLYMER 906 Tg 259	 POLYMER 1568 Tg 265
 POLYMER 274 Tg 324	 POLYMER 1405 Tg 228
 POLYMER 235 Tg 318	 POLYMER 282 Tg 339
 POLYMER 1031 Tg 281	 POLYMER 277 Tg 231
 POLYMER 1073 Tg 248	 POLYMER 832 Tg 241

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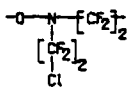
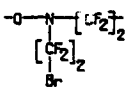
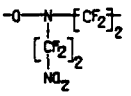
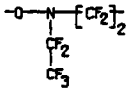
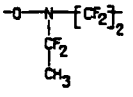
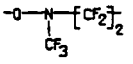
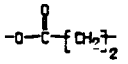
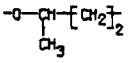
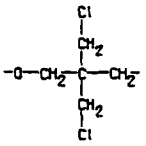
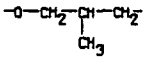
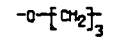
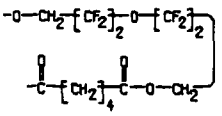
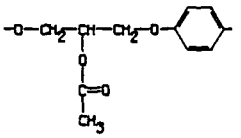
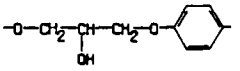
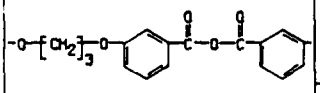
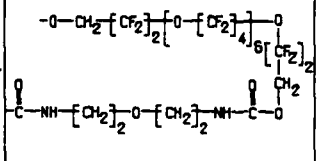
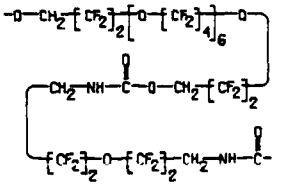
 POLYMER 834 Tg 225	 POLYMER 771 Tg 251	 POLYMER 833 Tg 231
 POLYMER 835 Tg 221	 POLYMER 770 Tg 238	 POLYMER 431 Tg 219
 POLYMER 1040 Tg 319	 POLYMER 895 Tg 245	 POLYMER 878 Tg 223
 POLYMER 316 Tg 265	 POLYMER 873 Tg 218	 POLYMER 429 Tg 195
 POLYMER 1079 Tg 215	 POLYMER 339 Tg 322	 POLYMER 332 Tg 333
 POLYMER 237 Tg 325	 POLYMER 1081 Tg 223	 POLYMER 1082 Tg 239

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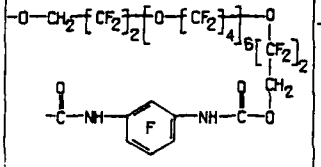
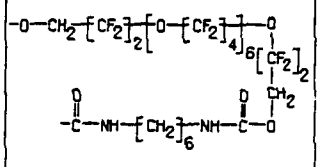
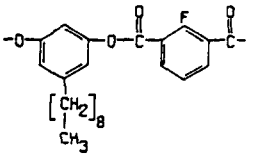
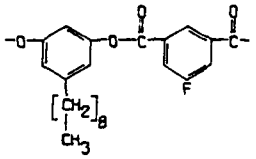
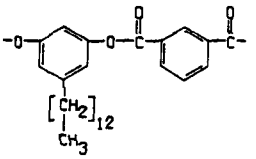
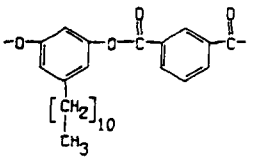
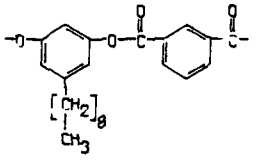
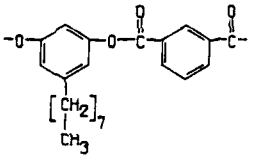
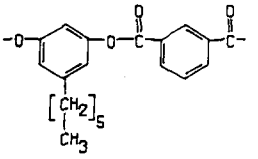
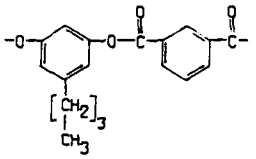
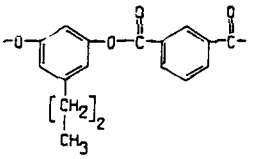
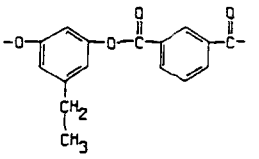
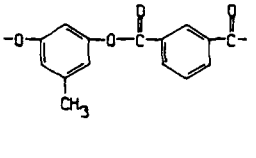
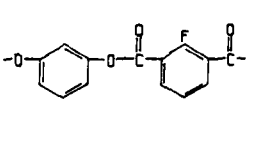
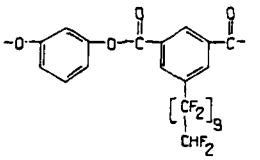
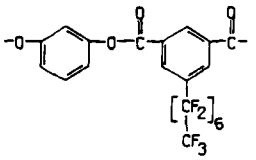
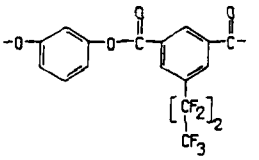
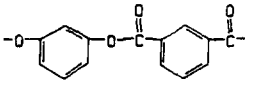
 POLYMER 1084 Tg 245	 POLYMER 1080 Tg 211	 POLYMER 518 Tg 307
 POLYMER 517 Tg 293	 POLYMER 424 Tg 291	 POLYMER 423 Tg 295
 POLYMER 422 Tg 304	 POLYMER 1119 Tg 314	 POLYMER 1118 Tg 335
 POLYMER 1117 Tg 359	 POLYMER 355 Tg 394	 POLYMER 421 Tg 395
 POLYMER 607 Tg 426	 POLYMER 745 Tg 393	 POLYMER 519 Tg 356
 POLYMER 520 Tg 374	 POLYMER 356 Tg 394	 POLYMER 608 Tg 411

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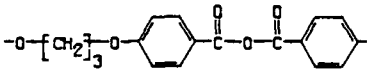
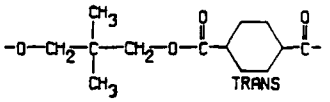
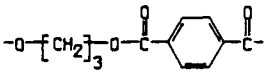
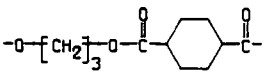
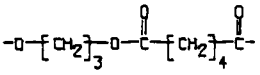
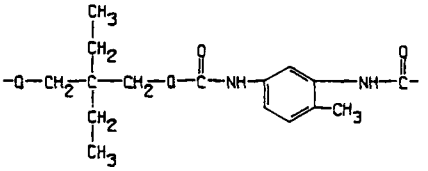
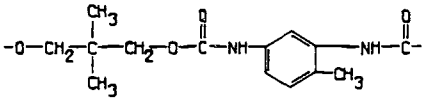
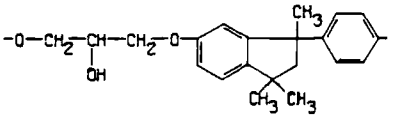
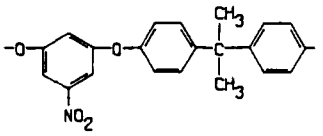
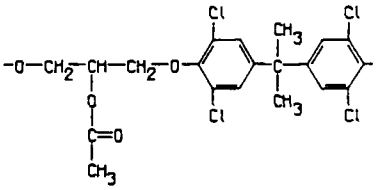
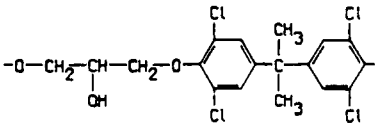
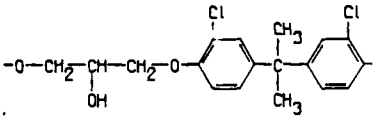
 POLYMER 236 Tg 368	 POLYMER 1030 Tg 293
 POLYMER 890 Tg 298	 POLYMER 902 Tg 262
 POLYMER 295 Tg 214	 POLYMER 868 Tg 203
 POLYMER 926 Tg 231	 POLYMER 335 Tg 393
 POLYMER 449 Tg 423	 POLYMER 340 Tg 373
 POLYMER 334 Tg 388	 POLYMER 333 Tg 358

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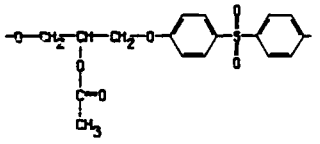
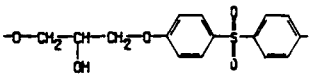
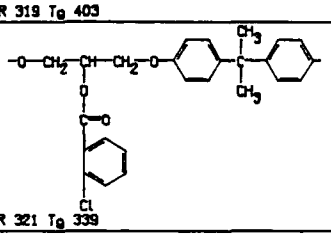
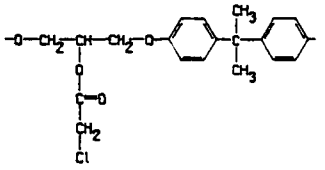
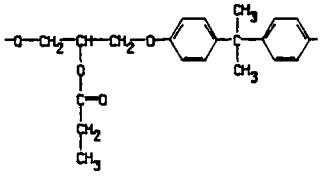
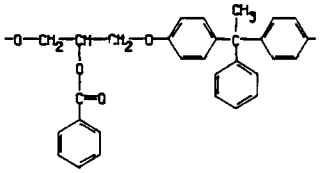
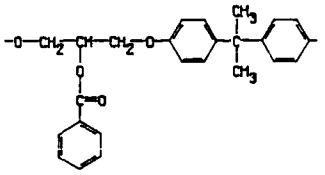
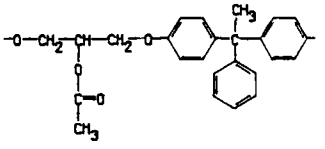
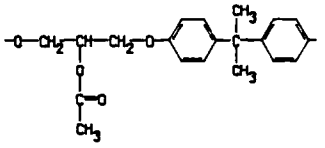
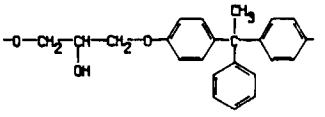
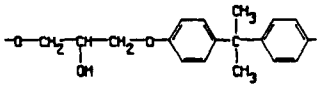
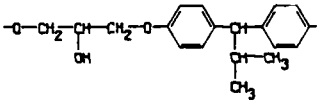
 POLYMER 319 Tg 403	 POLYMER 330 Tg 428
 POLYMER 321 Tg 339	 POLYMER 336 Tg 338
 POLYMER 338 Tg 333	 POLYMER 320 Tg 399
 POLYMER 322 Tg 338	 POLYMER 341 Tg 383
 POLYMER 337 Tg 333	 POLYMER 327 Tg 388
 POLYMER 326 Tg 373	 POLYMER 325 Tg 358

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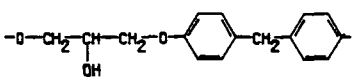
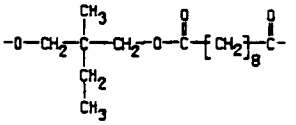
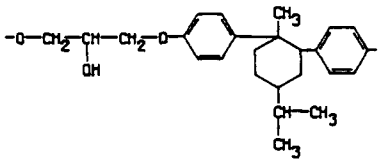
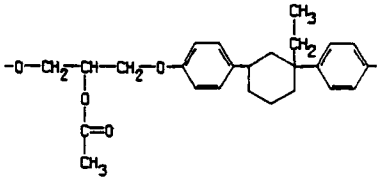
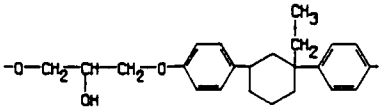
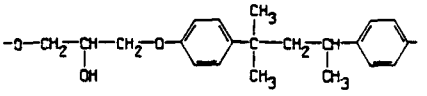
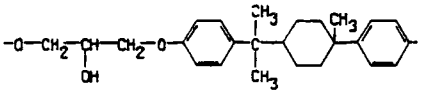
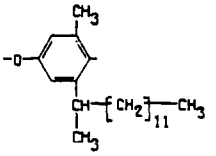
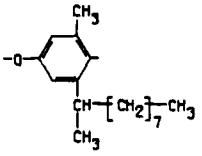
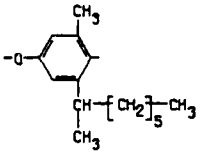
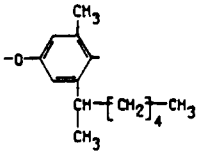
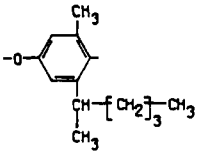
 POLYMER 324 Tg 353	 POLYMER 1049 Tg 194
 POLYMER 331 Tg 448	 POLYMER 342 Tg 380
 POLYMER 329 Tg 413	 POLYMER 323 Tg 348
 POLYMER 328 Tg 408	 POLYMER 1148 Tg 263
 POLYMER 1147 Tg 293	 POLYMER 1146 Tg 327
 POLYMER 1145 Tg 333	 POLYMER 1144 Tg 358

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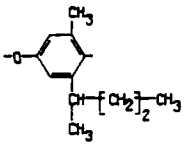
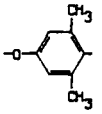
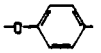
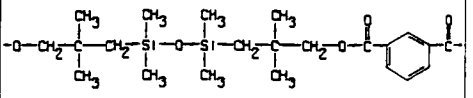
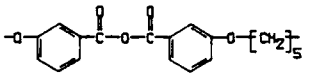
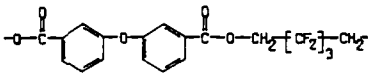
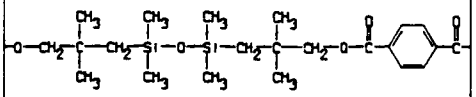
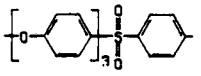
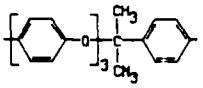
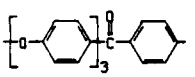
 POLYMER 1143 Tg 373	 POLYMER 1407 Tg 482
 POLYMER 1412 Tg 348	 POLYMER 363 Tg 203
POLYMER 347 Tg 188	 POLYMER 907 Tg 221
 POLYMER 240 Tg 334	 POLYMER 357 Tg 293
 POLYMER 601 Tg 238	 POLYMER 462 Tg 453
 POLYMER 1409 Tg 395	 POLYMER 460 Tg 423

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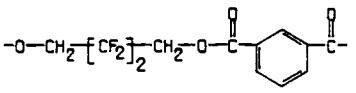
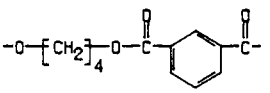
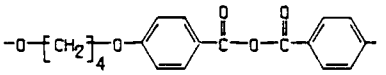
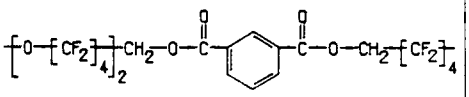
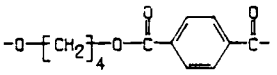
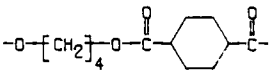
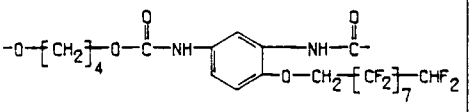
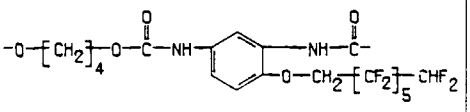
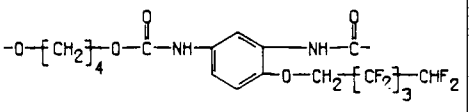
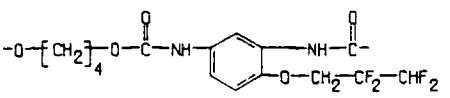
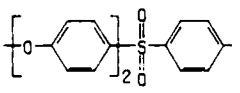
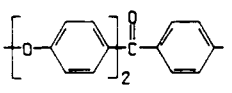
 POLYMER 1571 T_g 286	 POLYMER 1033 T_g 280
 POLYMER 238 T_g 348	 POLYMER 1041 T_g 249
 POLYMER 892 T_g 280	 POLYMER 901 T_g 258
 POLYMER 1077 T_g 163	 POLYMER 1076 T_g 177
 POLYMER 1075 T_g 193	 POLYMER 1074 T_g 215
 POLYMER 451 T_g 483	 POLYMER 450 T_g 433

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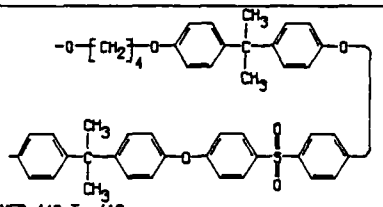
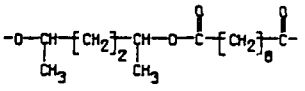
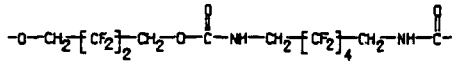
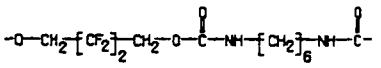
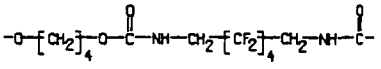
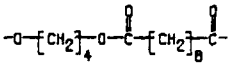
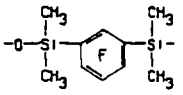
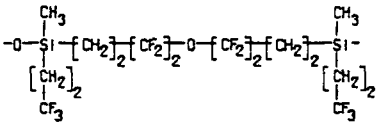
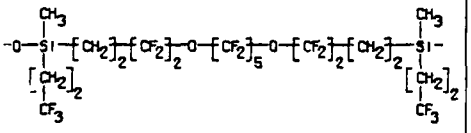
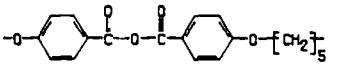
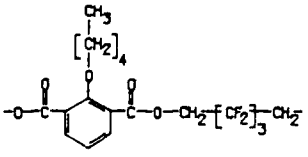
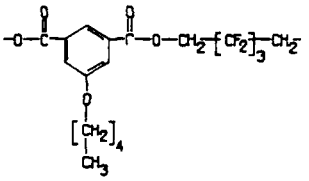
 POLYMER 446 Tg 413	 POLYMER 1050 Tg 202
 POLYMER 587 Tg 301	 POLYMER 593 Tg 272
 POLYMER 590 Tg 296	 POLYMER 296 Tg 216
 POLYMER 799 Tg 245	 POLYMER 1106 Tg 224
 POLYMER 1406 Tg 216	 POLYMER 239 Tg 326
 POLYMER 746 Tg 280	 POLYMER 748 Tg 233

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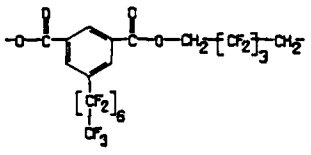
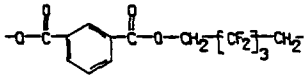
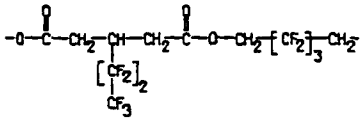
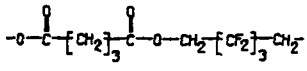
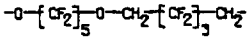
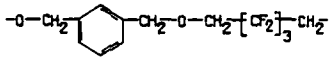
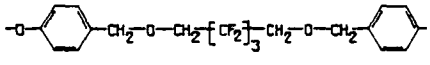
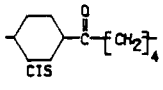
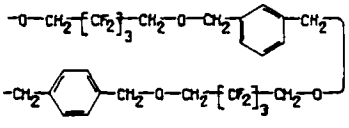
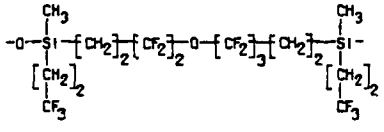
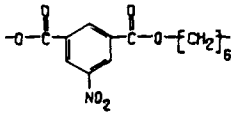
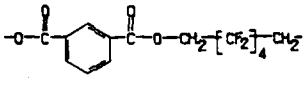
 POLYMER 559 Tg 293	 POLYMER 544 Tg 293
 POLYMER 905 Tg 248	 POLYMER 876 Tg 221
 POLYMER 1566 Tg 206	 POLYMER 514 Tg 233
 POLYMER 512 Tg 260	 POLYMER 894 Tg 216
 POLYMER 1078 Tg 231	 POLYMER 1404 Tg 229
 POLYMER 1038 Tg 323	 POLYMER 1572 Tg 283

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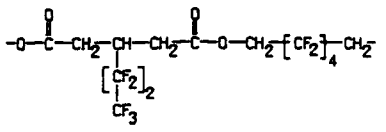
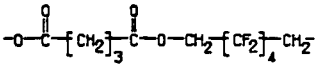
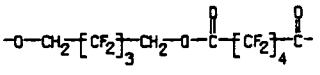
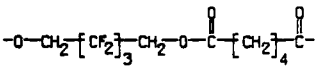
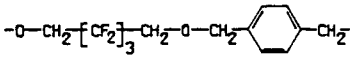
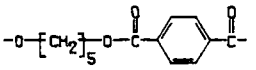
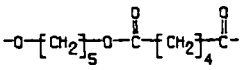
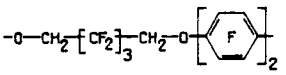
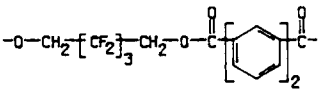
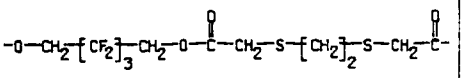
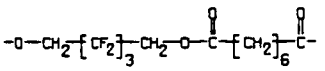
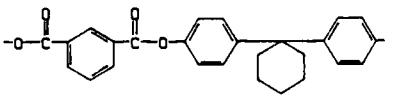
 POLYMER 904 T_g 248	 POLYMER 877 T_g 221
 POLYMER 908 T_g 218	 POLYMER 308 T_g 216
 POLYMER 541 T_g 242	 POLYMER 891 T_g 273
 POLYMER 287 T_g 204	 POLYMER 602 T_g 304
 POLYMER 309 T_g 318	 POLYMER 910 T_g 233
 POLYMER 1085 T_g 198	 POLYMER 297 T_g 400

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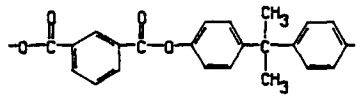
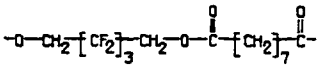
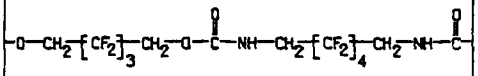
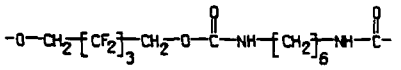
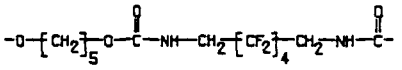
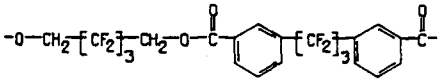
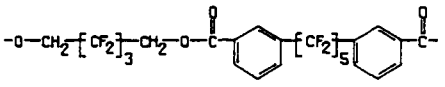
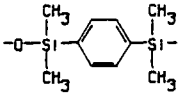
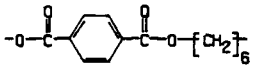
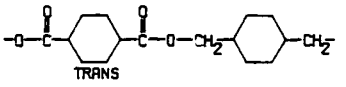
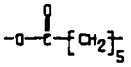
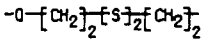
 POLYMER 301 T_g 457	 POLYMER 1086 T_g 216
 POLYMER 586 T_g 288	 POLYMER 592 T_g 279
 POLYMER 589 T_g 296	 POLYMER 310 T_g 290
 POLYMER 360 T_g 289	 POLYMER 929 T_g 256
 POLYMER 284 T_g 264	 POLYMER 1560 T_g 315
 POLYMER 696 T_g 202	 POLYMER 914 T_g 220

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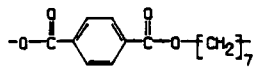
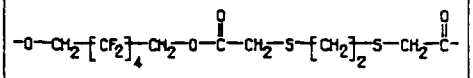
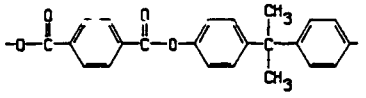
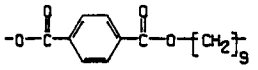
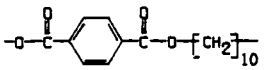
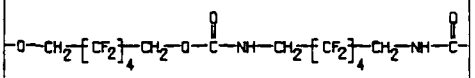
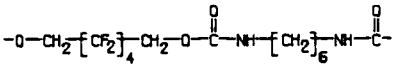
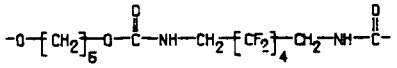
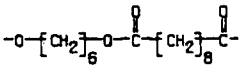
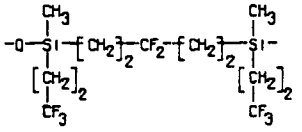
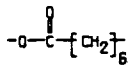
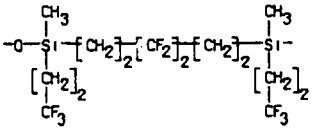
 POLYMER 903 T_g 266	 POLYMER 909 T_g 235
 POLYMER 440 T_g 477	 POLYMER 1558 T_g 260
 POLYMER 1029 T_g 258	 POLYMER 585 T_g 283
 POLYMER 591 T_g 261	 POLYMER 588 T_g 268
 POLYMER 1048 T_g 201	 POLYMER 811 T_g 225
 POLYMER 897 T_g 228	 POLYMER 810 T_g 236

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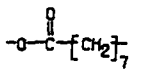
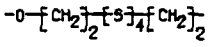
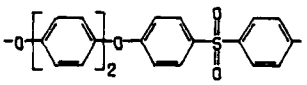
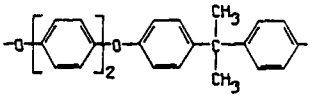
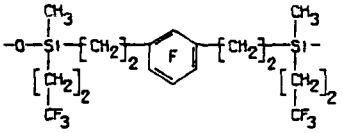
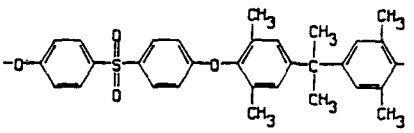
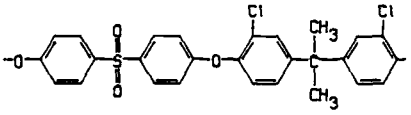
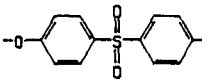
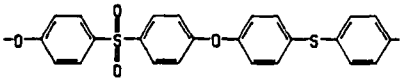
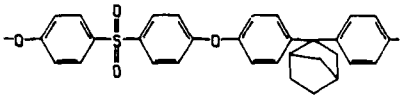
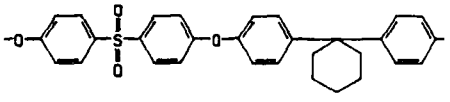
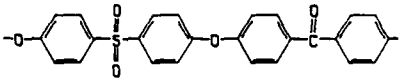
 POLYMER 898 Tg 235	 POLYMER 915 Tg 233
 POLYMER 466 Tg 503	 POLYMER 1410 Tg 427
 POLYMER 1101 Tg 232	 POLYMER 447 Tg 503
 POLYMER 448 Tg 478	 POLYMER 465 Tg 501
 POLYMER 463 Tg 448	 POLYMER 470 Tg 523
 POLYMER 468 Tg 478	 POLYMER 464 Tg 478

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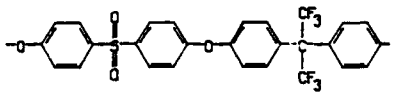
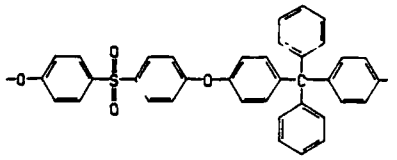
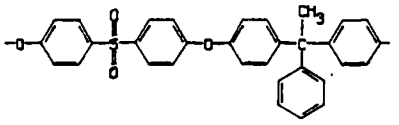
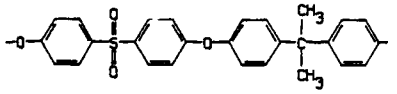
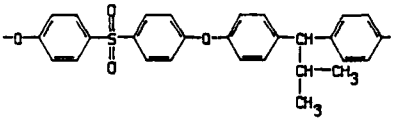
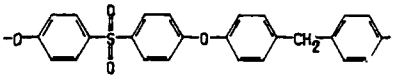
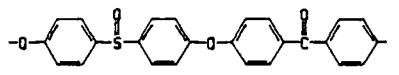
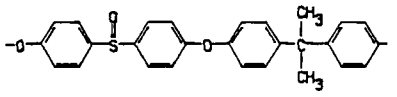
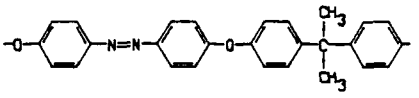
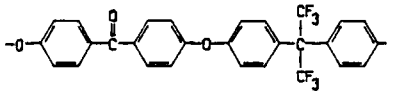
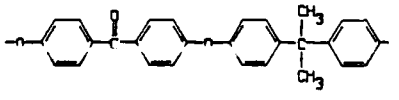
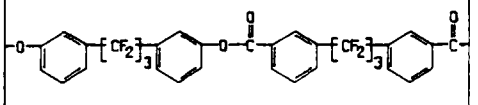
 POLYMER 473 Tg 478	 POLYMER 467 Tg 503
 POLYMER 471 Tg 473	 POLYMER 472 Tg 449
 POLYMER 475 Tg 473	 POLYMER 474 Tg 453
 POLYMER 459 Tg 478	 POLYMER 454 Tg 438
 POLYMER 456 Tg 448	 POLYMER 457 Tg 448
 POLYMER 461 Tg 428	 POLYMER 307 Tg 345

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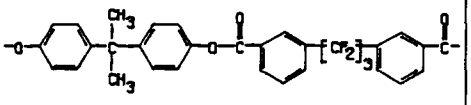
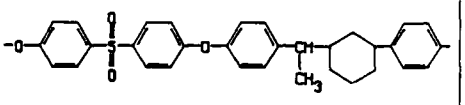
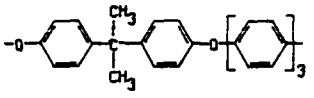
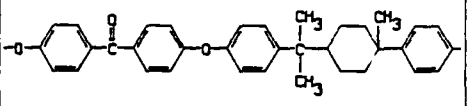
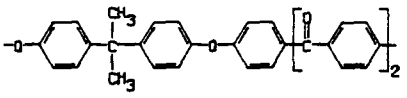
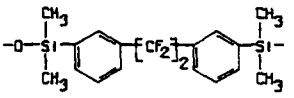
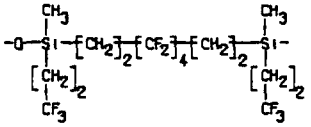
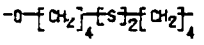
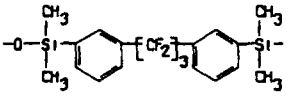
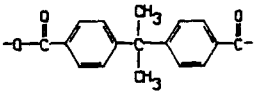
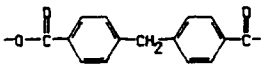
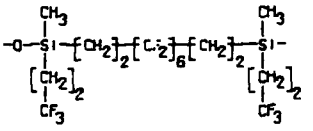
 POLYMER 361 Tg 389	 POLYMER 469 Tg 503
 POLYMER 1411 Tg 455	 POLYMER 458 Tg 473
 POLYMER 455 Tg 438	 POLYMER 605 Tg 263
 POLYMER 809 Tg 238	 POLYMER 850 Tg 197
 POLYMER 521 Tg 260	 POLYMER 246 Tg 333
 POLYMER 243 Tg 395	 POLYMER 808 Tg 239

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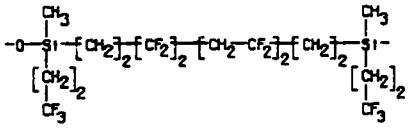
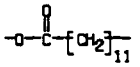
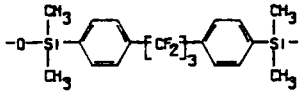
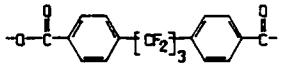
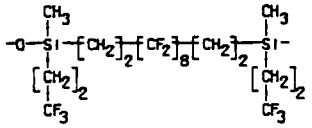
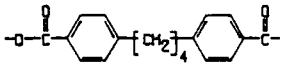
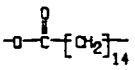
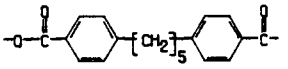
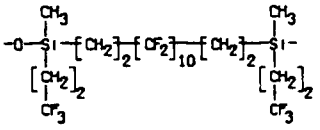
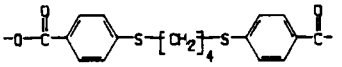
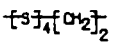
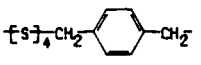
 POLYMER 1099 Tg 239	 POLYMER 900 Tg 248
 POLYMER 1102 Tg 251	 POLYMER 248 Tg 371
 POLYMER 807 Tg 235	 POLYMER 244 Tg 319
 POLYMER 898 Tg 251	 POLYMER 245 Tg 312
 POLYMER 806 Tg 252	 POLYMER 247 Tg 335
 POLYMER 920 Tg 249	 POLYMER 922 Tg 266

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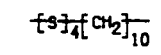
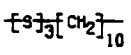
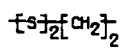
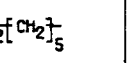
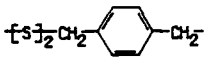
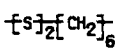
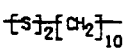
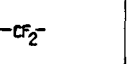
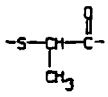
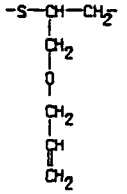
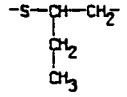
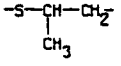
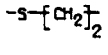
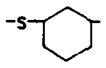
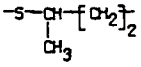
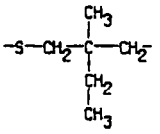
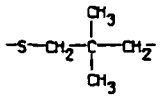
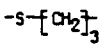
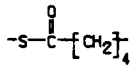
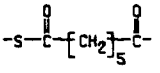
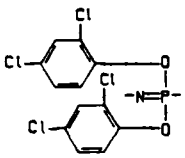
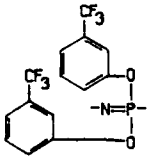
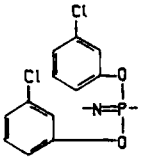
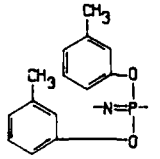
 POLYMER 851 Tg 187	 POLYMER 858 Tg 193	 POLYMER 919 Tg 246	 POLYMER 854 Tg 201
 POLYMER 921 Tg 286	 POLYMER 853 Tg 199	 POLYMER 860 Tg 198	 POLYMER 534 Tg 155
 POLYMER 1557 Tg 275	 POLYMER 867 Tg 213	 POLYMER 874 Tg 218	 POLYMER 917 Tg 226
 POLYMER 875 Tg 218	 POLYMER 923 Tg 211	 POLYMER 871 Tg 204	 POLYMER 924 Tg 213
 POLYMER 918 Tg 223	 POLYMER 916 Tg 228	 POLYMER 925 Tg 282	 POLYMER 1561 Tg 282
 POLYMER 935 Tg 265	 POLYMER 761 Tg 228	 POLYMER 1051 Tg 239	 POLYMER 1054 Tg 243

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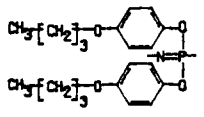
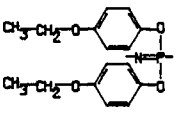
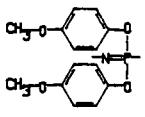
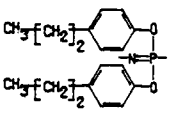
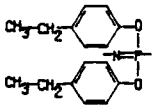
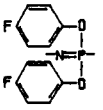
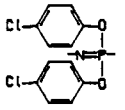
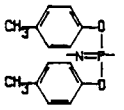
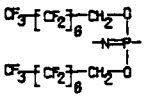
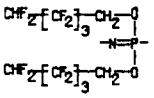
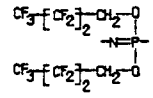
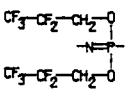
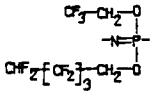
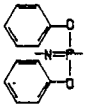
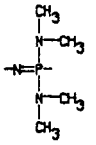
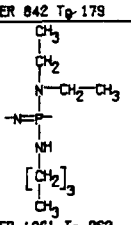
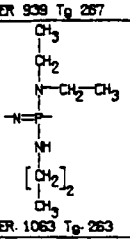
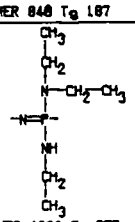
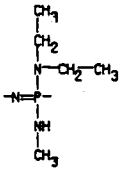
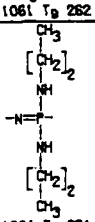
 POLYMER 1149 Tg 241	 POLYMER 1150 Tg 270	 POLYMER 1151 Tg 284	 POLYMER 1152 Tg 229
 POLYMER 1053 Tg 244	 POLYMER 759 Tg 254	 POLYMER 936 Tg 256	 POLYMER 1154 Tg 265
 POLYMER 762 Tg 223	 POLYMER 1066 Tg 210	 POLYMER 1065 Tg 207	 POLYMER 758 Tg 190
 POLYMER 1107 Tg 203	 POLYMER 558 Tg 203	 POLYMER 842 Tg 179	 POLYMER 939 Tg 267
 POLYMER 848 Tg 187	 POLYMER 940 Tg 259	 POLYMER 1061 Tg 262	 POLYMER 1063 Tg 263
 POLYMER 1060 Tg 257	 POLYMER 1120 Tg 276	 POLYMER 1064 Tg 271	 POLYMER 760 Tg 208

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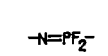
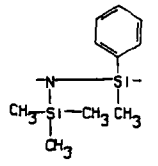
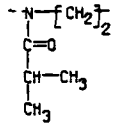
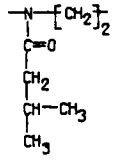
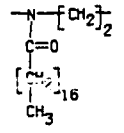
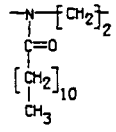
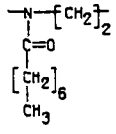
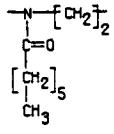
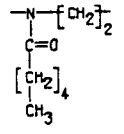
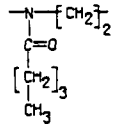
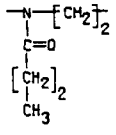
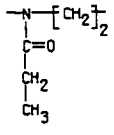
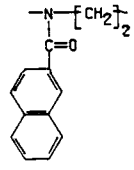
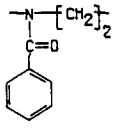
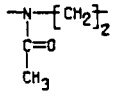
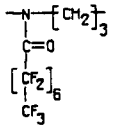
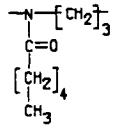
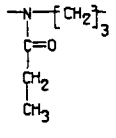
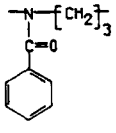
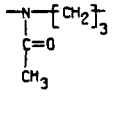
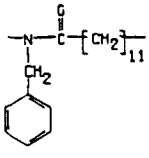
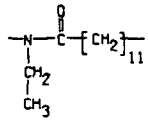
 POLYMER 1047 Tg 167	 POLYMER 862 Tg 204	 POLYMER 1062 Tg 258	 POLYMER 946 Tg 223
 POLYMER 497 Tg 303	 POLYMER 500 Tg 303	 POLYMER 1142 Tg 283	 POLYMER 1141 Tg 283
 POLYMER 1140 Tg 283	 POLYMER 1139 Tg 283	 POLYMER 501 Tg 283	 POLYMER 498 Tg 286
 POLYMER 496 Tg 303	 POLYMER 495 Tg 343	 POLYMER 503 Tg 403	 POLYMER 502 Tg 378
 POLYMER 494 Tg 353	 POLYMER 507 Tg 298	 POLYMER 506 Tg 257	 POLYMER 505 Tg 281
 POLYMER 499 Tg 345	 POLYMER 504 Tg 303	 POLYMER 963 Tg 241	 POLYMER 962 Tg 225

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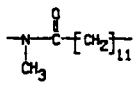
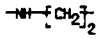
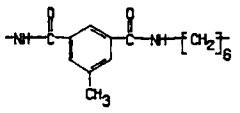
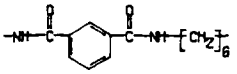
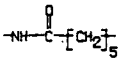
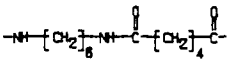
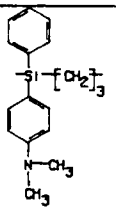
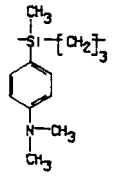
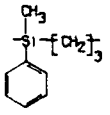
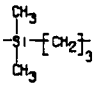
 POLYMER 961 T_g 231	 POLYMER 943 T_g 191
 POLYMER 941 T_g 240	 POLYMER 426 T_g 393
 POLYMER 425 T_g 390	 POLYMER 686 T_g 325
 POLYMER 687 T_g 323	 POLYMER 942 T_g 173
 POLYMER 945 T_g 325	 POLYMER 944 T_g 267
 POLYMER 1042 T_g 243	 POLYMER 856 T_g 203

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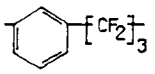
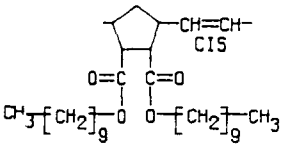
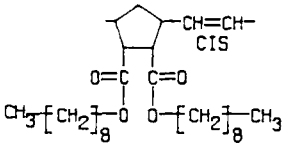
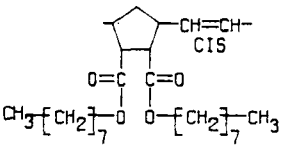
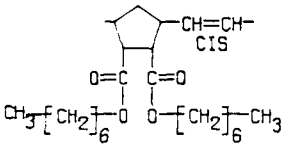
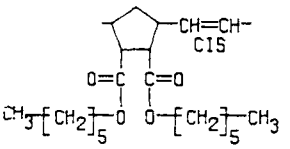
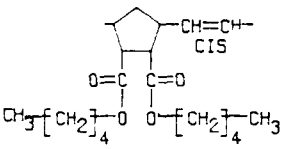
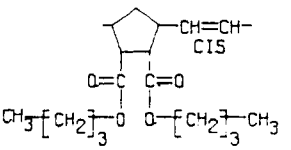
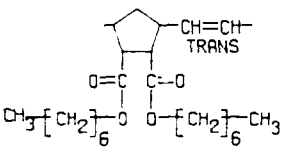
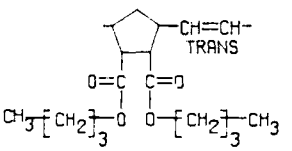
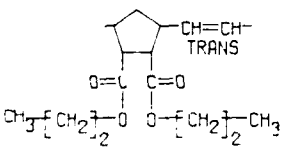
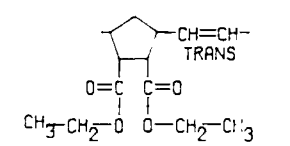
 POLYMER 542 T_g 303	 POLYMER 1011 T_g 193
 POLYMER 1010 T_g 175	 POLYMER 1009 T_g 180
 POLYMER 1116 T_g 188	 POLYMER 1007 T_g 198
 POLYMER 1006 T_g 228	 POLYMER 976 T_g 245
 POLYMER 1008 T_g 188	 POLYMER 1115 T_g 237
 POLYMER 1005 T_g 263	 POLYMER 1004 T_g 228

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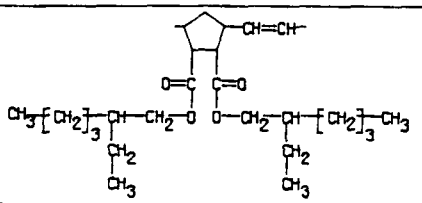
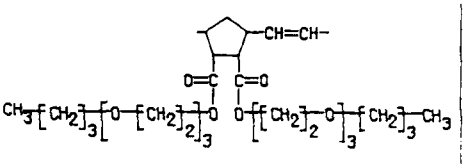
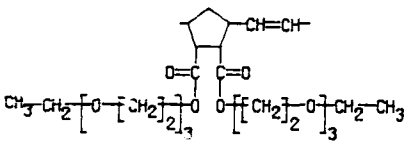
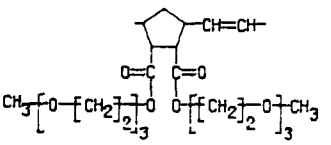
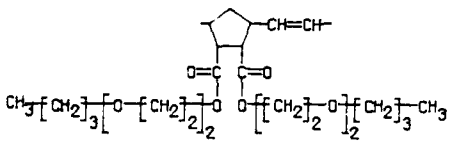
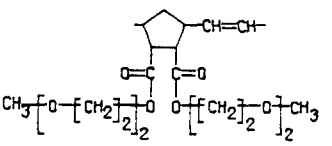
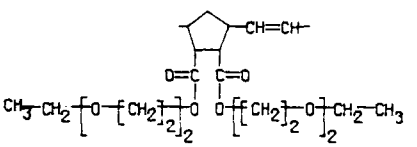
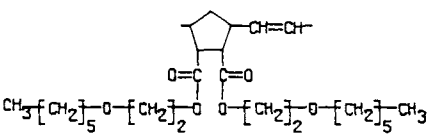
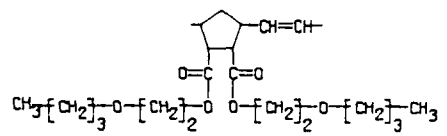
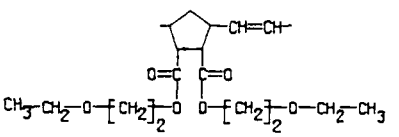
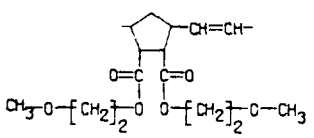
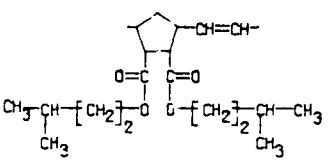
 POLYMER 1013 T_g 188	 POLYMER 1023 T_g 187
 POLYMER 1022 T_g 202	 POLYMER 1021 T_g 216
 POLYMER 1020 T_g 203	 POLYMER 1018 T_g 195
 POLYMER 1019 T_g 201	 POLYMER 1017 T_g 188
 POLYMER 1016 T_g 188	 POLYMER 1015 T_g 233
 POLYMER 1014 T_g 253	 POLYMER 1012 T_g 243

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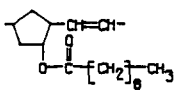
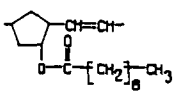
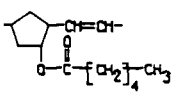
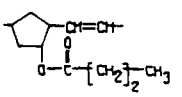
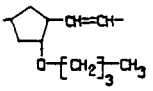
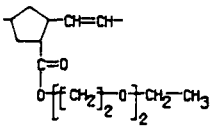
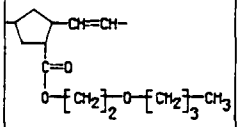
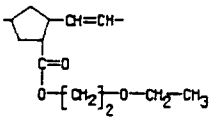
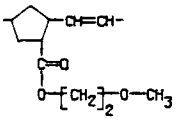
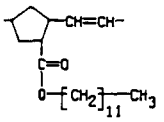
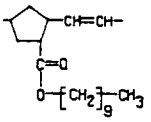
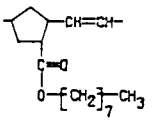
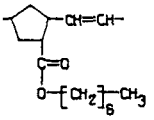
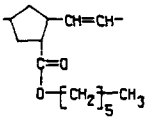
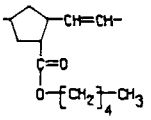
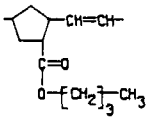
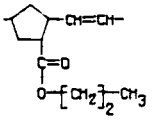
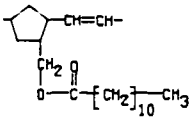
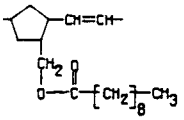
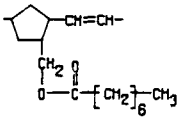
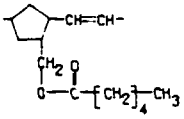
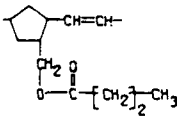
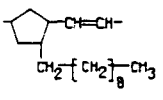
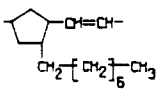
 POLYMER 994 Tg 222	 POLYMER 993 Tg 220	 POLYMER 992 Tg 213	 POLYMER 991 Tg 270
 POLYMER 982 Tg 254	 POLYMER 1003 Tg 229	 POLYMER 995 Tg 228	 POLYMER 1002 Tg 253
 POLYMER 1001 Tg 263	 POLYMER 990 Tg 216	 POLYMER 989 Tg 216	 POLYMER 988 Tg 210
 POLYMER 987 Tg 220	 POLYMER 986 Tg 244	 POLYMER 985 Tg 237	 POLYMER 984 Tg 245
 POLYMER 983 Tg 270	 POLYMER 1000 Tg 243	 POLYMER 999 Tg 213	 POLYMER 998 Tg 233
 POLYMER 997 Tg 235	 POLYMER 996 Tg 263	 POLYMER 981 Tg 212	 POLYMER 980 Tg 225

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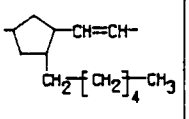
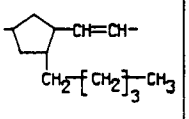
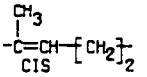
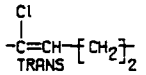
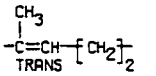
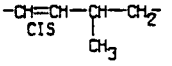
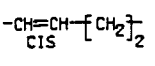
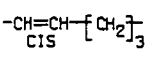
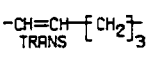
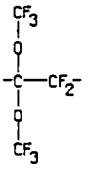
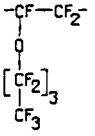
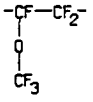
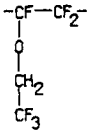
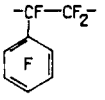
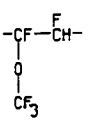
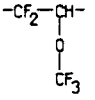
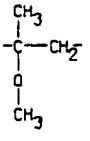
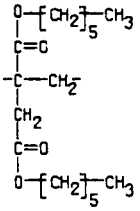
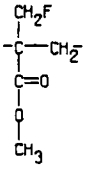
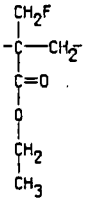
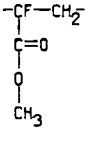
 POLYMER 979 T_g 246	 POLYMER 978 T_g 251	 POLYMER 622 T_g 200	 POLYMER 618 T_g 233	 POLYMER 623 T_g 215
 POLYMER 726 T_g 226	 POLYMER 614 T_g 171	 POLYMER 742 T_g 163	 POLYMER 625 T_g 173	 POLYMER 531 T_g 203
 POLYMER 525 T_g 258	 POLYMER 533 T_g 258	 POLYMER 532 T_g 298	 POLYMER 596 T_g 457	 POLYMER 226 T_g 420
 POLYMER 225 T_g 400	 POLYMER 199 T_g 303	 POLYMER 569 T_g 345	 POLYMER 523 T_g 258	 POLYMER 524 T_g 258
 POLYMER 386 T_g 340	 POLYMER 947 T_g 269	 POLYMER 491 T_g 363	 POLYMER 492 T_g 316	 POLYMER 582 T_g 404

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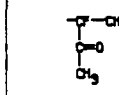
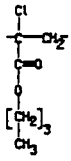
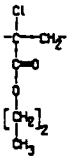
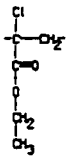
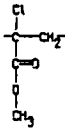
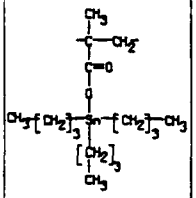
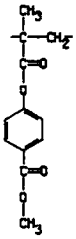
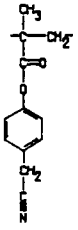
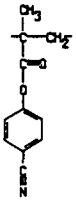
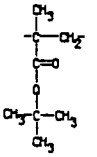
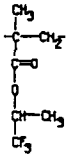
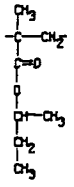
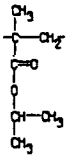
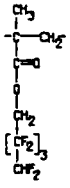
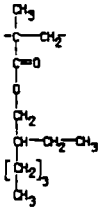
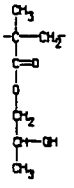
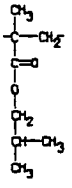
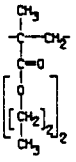
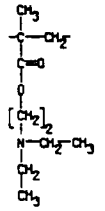
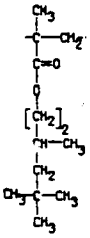
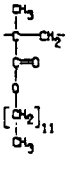
 POLYMER 484 Tg 406	 POLYMER 60 Tg 315	 POLYMER 67 Tg 329	 POLYMER 63 Tg 351	 POLYMER 86 Tg 398
 POLYMER 1057 Tg 251	 POLYMER 56 Tg 378	 POLYMER 128 Tg 401	 POLYMER 58 Tg 428	 POLYMER 44 Tg 381
 POLYMER 108 Tg 339	 POLYMER 43 Tg 331	 POLYMER 50 Tg 354	 POLYMER 477 Tg 278	 POLYMER 476 Tg 305
 POLYMER 478 Tg 329	 POLYMER 46 Tg 283	 POLYMER 430 Tg 348	 POLYMER 48 Tg 327	 POLYMER 1058 Tg 285
 POLYMER 383 Tg 298	 POLYMER 111 Tg 292	 POLYMER 382 Tg 292	 POLYMER 970 Tg 274	 POLYMER 118 Tg 218

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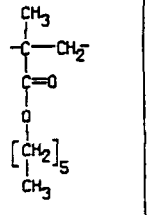
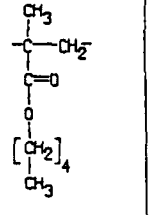
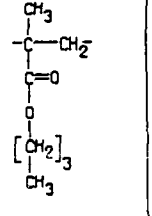
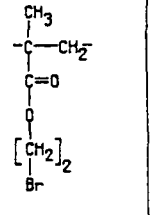
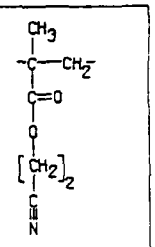
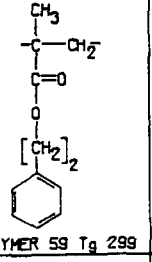
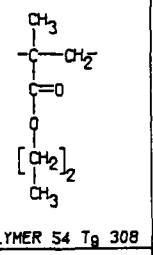
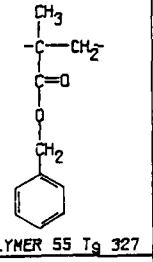
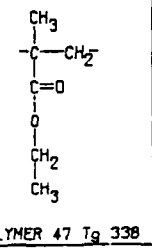
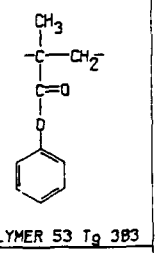
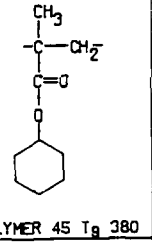
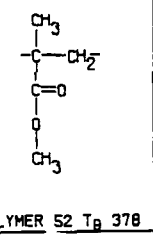
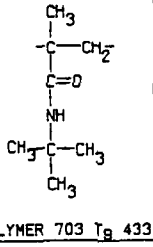
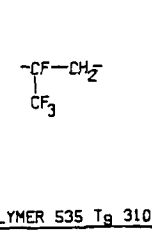
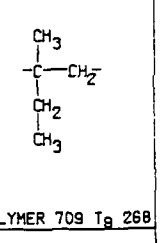
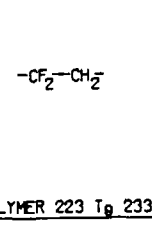
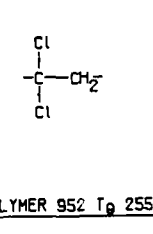
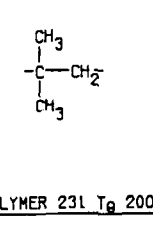
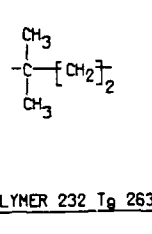
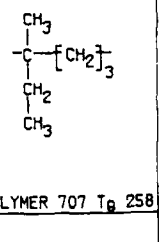
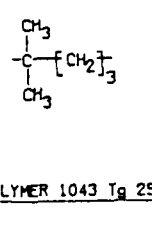
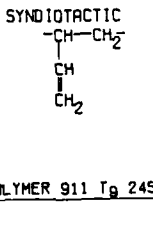
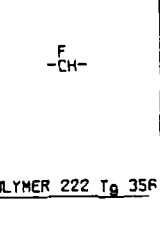
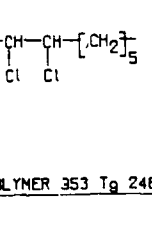
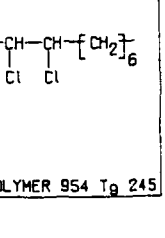
 POLYMER 116 T_g 268	 POLYMER 115 T_g 268	 POLYMER 42 T_g 293	 POLYMER 380 T_g 325	 POLYMER 57 T_g 364
 POLYMER 59 T_g 299	 POLYMER 54 T_g 308	 POLYMER 55 T_g 327	 POLYMER 47 T_g 338	 POLYMER 53 T_g 383
 POLYMER 45 T_g 380	 POLYMER 52 T_g 378	 POLYMER 703 T_g 433	 POLYMER 535 T_g 310	 POLYMER 709 T_g 268
 POLYMER 223 T_g 233	 POLYMER 952 T_g 255	 POLYMER 231 T_g 200	 POLYMER 232 T_g 263	 POLYMER 707 T_g 258
 POLYMER 1043 T_g 258	 POLYMER 911 T_g 245	 POLYMER 222 T_g 356	 POLYMER 353 T_g 246	 POLYMER 954 T_g 245

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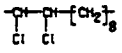
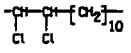
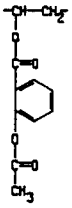
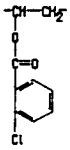
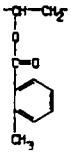
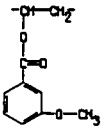
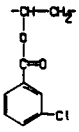
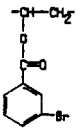
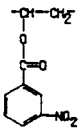
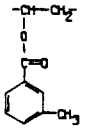
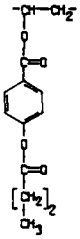
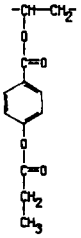
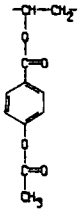
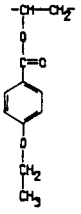
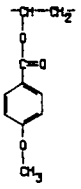
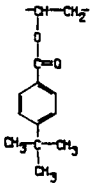
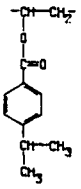
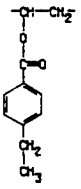
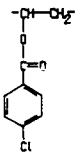
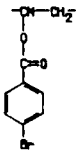
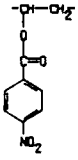
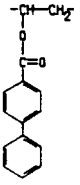
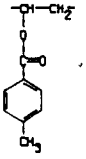
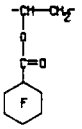
 POLYMER 955 Tg 233	 POLYMER 956 Tg 231	 POLYMER 411 Tg 333	 POLYMER 407 Tg 338	 POLYMER 400 Tg 335
 POLYMER 403 Tg 321	 POLYMER 408 Tg 317	 POLYMER 401 Tg 338	 POLYMER 386 Tg 331	 POLYMER 414 Tg 366
 POLYMER 404 Tg 324	 POLYMER 398 Tg 334	 POLYMER 416 Tg 342	 POLYMER 412 Tg 349	 POLYMER 410 Tg 343
 POLYMER 409 Tg 360	 POLYMER 398 Tg 374	 POLYMER 417 Tg 342	 POLYMER 406 Tg 328	 POLYMER 402 Tg 357
 POLYMER 397 Tg 365	 POLYMER 413 Tg 395	 POLYMER 415 Tg 358	 POLYMER 405 Tg 343	 POLYMER 578 Tg 327

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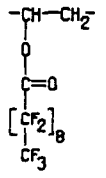
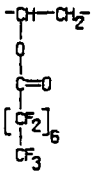
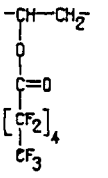
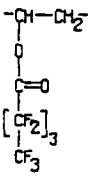
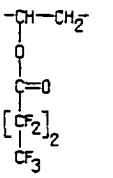
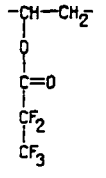
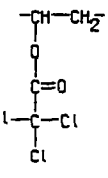
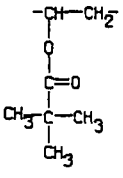
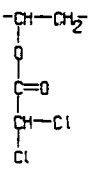
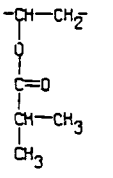
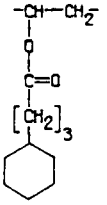
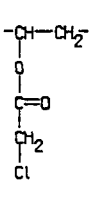
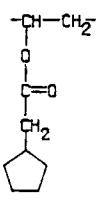
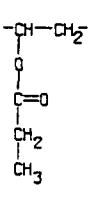
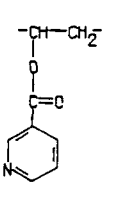
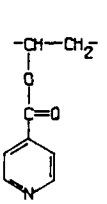
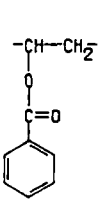
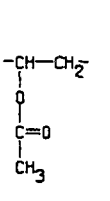
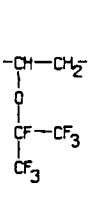
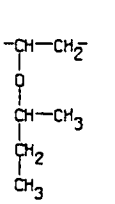
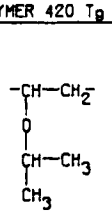
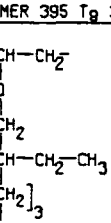
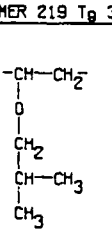
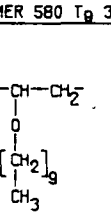
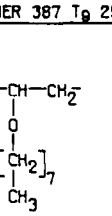
 POLYMER 578 T_g 255	 POLYMER 577 T_g 263	 POLYMER 576 T_g 264	 POLYMER 575 T_g 293	 POLYMER 574 T_g 300
 POLYMER 573 T_g 315	 POLYMER 392 T_g 332	 POLYMER 418 T_g 332	 POLYMER 391 T_g 313	 POLYMER 394 T_g 283
 POLYMER 949 T_g 263	 POLYMER 214 T_g 298	 POLYMER 948 T_g 270	 POLYMER 393 T_g 272	 POLYMER 419 T_g 360
 POLYMER 420 T_g 372	 POLYMER 395 T_g 344	 POLYMER 219 T_g 306	 POLYMER 580 T_g 323	 POLYMER 387 T_g 253
 POLYMER 384 T_g 270	 POLYMER 389 T_g 207	 POLYMER 216 T_g 253	 POLYMER 730 T_g 211	 POLYMER 385 T_g 194

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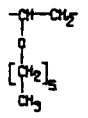
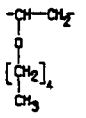
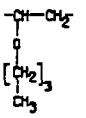
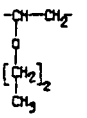
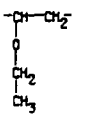
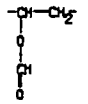
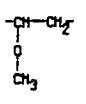
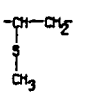
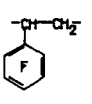
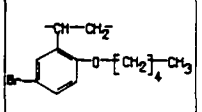
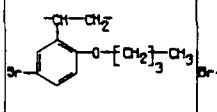
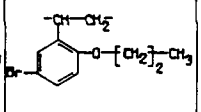
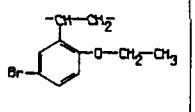
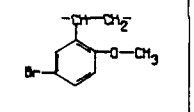
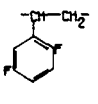
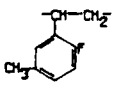
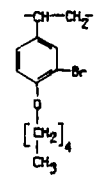
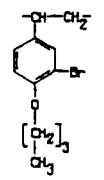
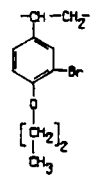
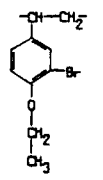
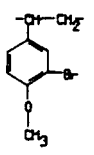
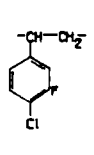
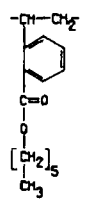
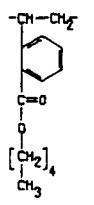
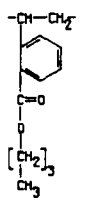
 POLYMER 82 Tg 196	 POLYMER 81 Tg 207	 POLYMER 80 Tg 218	 POLYMER 950 Tg 224	 POLYMER 79 Tg 230
 POLYMER 218 Tg 306	 POLYMER 215 Tg 238	 POLYMER 390 Tg 272	 POLYMER 536 Tg 368	 POLYMER 640 Tg 322
 POLYMER 635 Tg 320	 POLYMER 841 Tg 327	 POLYMER 636 Tg 353	 POLYMER 639 Tg 359	 POLYMER 483 Tg 374
 POLYMER 482 Tg 381	 POLYMER 1128 Tg 334	 POLYMER 1127 Tg 355	 POLYMER 1126 Tg 367	 POLYMER 1125 Tg 386
 POLYMER 1124 Tg 394	 POLYMER 149 Tg 385	 POLYMER 736 Tg 318	 POLYMER 740 Tg 365	 POLYMER 735 Tg 338

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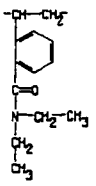
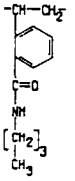
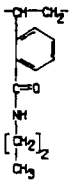
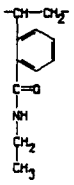
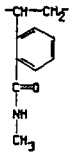
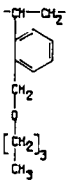
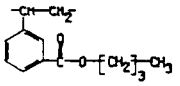
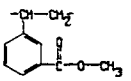
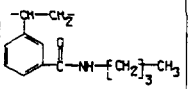
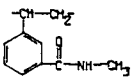
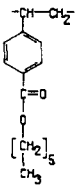
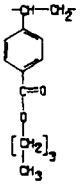
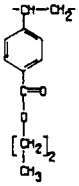
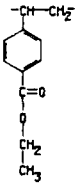
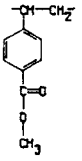
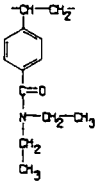
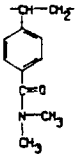
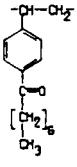
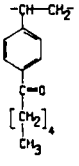
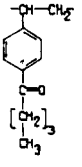
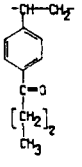
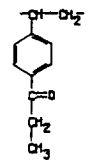
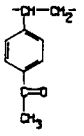
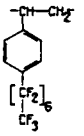
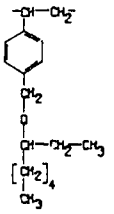
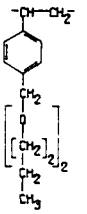
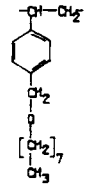
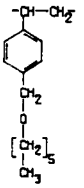
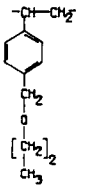
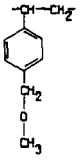
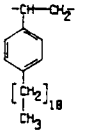
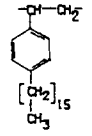
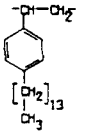
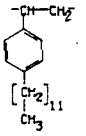
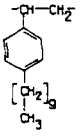
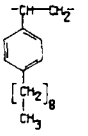
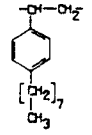
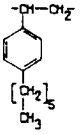
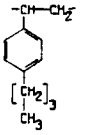
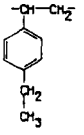
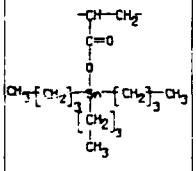
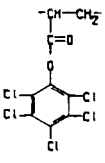
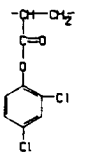
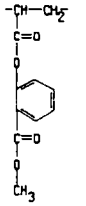
 POLYMER 741 Tg 381	 POLYMER 735 Tg 391	 POLYMER 1121 Tg 425	 POLYMER 650 Tg 483	 POLYMER 1133 Tg 381
 POLYMER 1132 Tg 420	 POLYMER 1131 Tg 436	 POLYMER 670 Tg 462	 POLYMER 793 Tg 320	 POLYMER 766 Tg 340
 POLYMER 1130 Tg 351	 POLYMER 1129 Tg 391	 POLYMER 1123 Tg 397	 POLYMER 1122 Tg 463	 POLYMER 695 Tg 339
 POLYMER 691 Tg 348	 POLYMER 688 Tg 385	 POLYMER 694 Tg 367	 POLYMER 176 Tg 386	 POLYMER 648 Tg 375
 POLYMER 651 Tg 398	 POLYMER 674 Tg 323	 POLYMER 665 Tg 339	 POLYMER 675 Tg 343	 POLYMER 642 Tg 347

Table 1 (continued)

 POLYMER 683 Tg 375	 POLYMER 680 Tg 339	 POLYMER 516 Tg 305	 POLYMER 190 Tg 250	 POLYMER 188 Tg 235
 POLYMER 186 Tg 231	 POLYMER 185 Tg 253	 POLYMER 1400 Tg 295	 POLYMER 1399 Tg 350	 POLYMER 174 Tg 305
 POLYMER 172 Tg 278	 POLYMER 171 Tg 237	 POLYMER 170 Tg 221	 POLYMER 76 Tg 208	 POLYMER 75 Tg 220
 POLYMER 74 Tg 228	 POLYMER 73 Tg 246	 POLYMER 72 Tg 279	 POLYMER 160 Tg 300	 POLYMER 481 Tg 368
 POLYMER 1058 Tg 246	 POLYMER 378 Tg 420	 POLYMER 373 Tg 333	 POLYMER 366 Tg 303	 POLYMER 368 Tg 319

TR 88028

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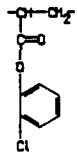
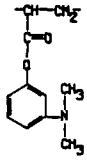
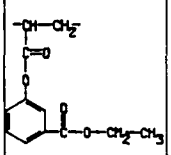
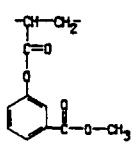
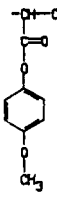
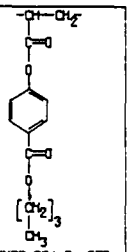
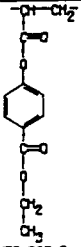
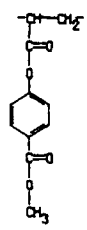
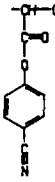
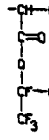
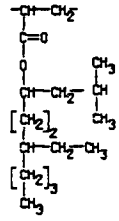
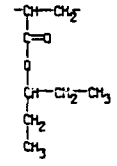
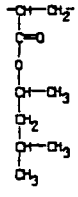
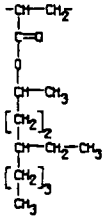
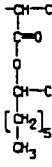
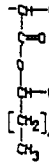
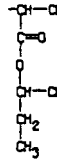
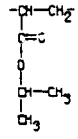
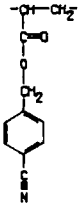
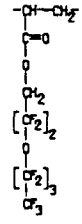
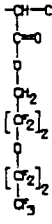
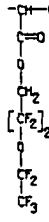
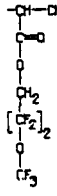
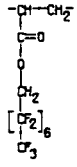
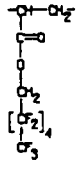
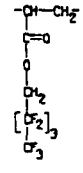
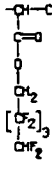
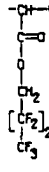
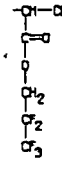
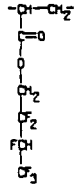
 POLYMER 371 Tg 326	 POLYMER 375 Tg 320	 POLYMER 367 Tg 297	 POLYMER 369 Tg 311	 POLYMER 378 Tg 324	 POLYMER 364 Tg 286
 POLYMER 365 Tg 310	 POLYMER 38 Tg 340	 POLYMER 39 Tg 365	 POLYMER 581 Tg 283	 PO YMER 27 Tg 253	 POLYMER 34 Tg 267
 POLYMER 29 Tg 259	 POLYMER 15 Tg 233	 POLYMER 33 Tg 228	 POLYMER 18 Tg 235	 POLYMER 2 Tg 251	 POLYMER 21 Tg 270
 POLYMER 372 Tg 317	 POLYMER 101 Tg 205	 POLYMER 100 Tg 205	 POLYMER 99 Tg 224	 POLYMER 98 Tg 218	 POLYMER 97 Tg 256
 POLYMER 96 Tg 234	 POLYMER 95 Tg 236	 POLYMER 107 Tg 238	 POLYMER 91 Tg 243	 POLYMER 94 Tg 247	 POLYMER 106 Tg 251

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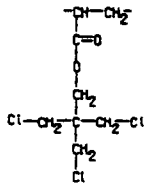
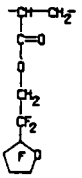
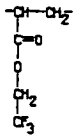
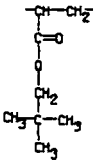
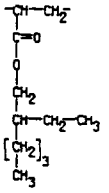
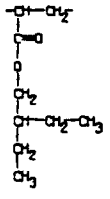
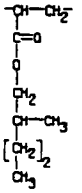
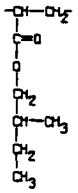
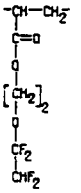
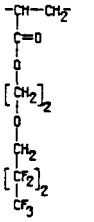
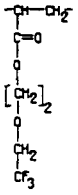
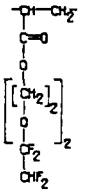
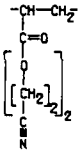
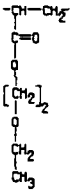
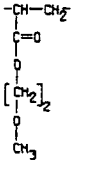
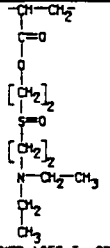
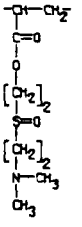
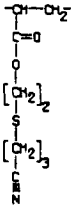
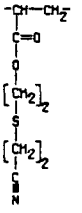
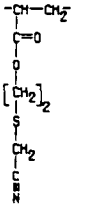
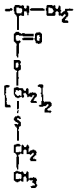
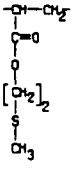
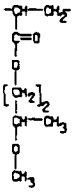
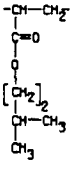
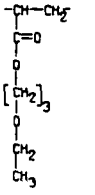
 POLYMER 370 T_g 319	 POLYMER 812 T_g 250	 POLYMER 92 T_g 263	 POLYMER 83 T_g 295	 POLYMER 14 T_g 223
 POLYMER 13 T_g 223	 POLYMER 28 T_g 235	 POLYMER 25 T_g 241	 POLYMER 105 T_g 251	 POLYMER 102 T_g 228
 POLYMER 104 T_g 235	 POLYMER 103 T_g 233	 POLYMER 973 T_g 250	 POLYMER 10 T_g 223	 POLYMER 22 T_g 223
 POLYMER 1056 T_g 258	 POLYMER 1055 T_g 263	 POLYMER 8 T_g 215	 POLYMER 4 T_g 223	 POLYMER 6 T_g 249
 POLYMER 16 T_g 202	 POLYMER 31 T_g 213	 POLYMER 377 T_g 217	 POLYMER 26 T_g 228	 POLYMER 11 T_g 218

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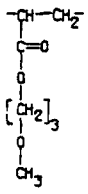
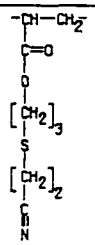
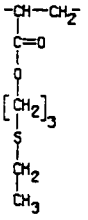
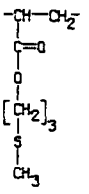
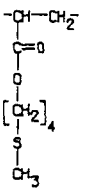
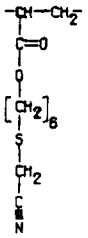
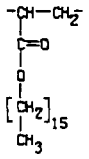
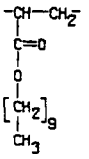
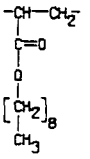
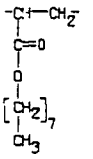
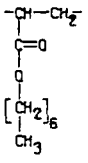
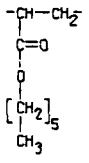
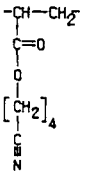
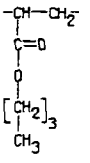
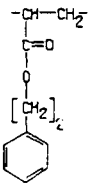
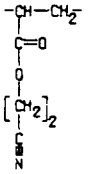
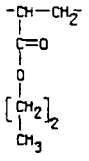
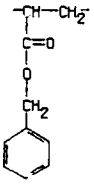
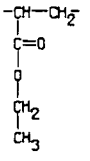
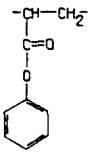
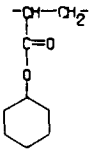
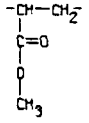
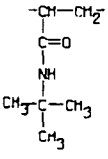
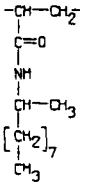
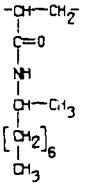
 POLYMER 23 T_g 198	 POLYMER 5 T_g 215	 POLYMER 17 T_g 197	 POLYMER 32 T_g 208	 POLYMER 30 T_g 203
 POLYMER 7 T_g 214	 POLYMER 87 T_g 193	 POLYMER 1052 T_g 213	 POLYMER 89 T_g 215	 POLYMER 90 T_g 208
 POLYMER 86 T_g 213	 POLYMER 88 T_g 216	 POLYMER 972 T_g 238	 POLYMER 1 T_g 219	 POLYMER 41 T_g 270
 POLYMER 37 T_g 277	 POLYMER 35 T_g 236	 POLYMER 36 T_g 279	 POLYMER 12 T_g 249	 POLYMER 40 T_g 330
 POLYMER 9 T_g 292	 POLYMER 24 T_g 283	 POLYMER 702 T_g 401	 POLYMER 712 T_g 313	 POLYMER 713 T_g 325

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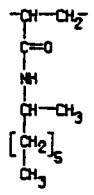
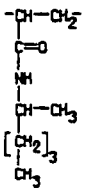
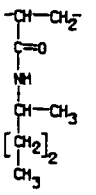
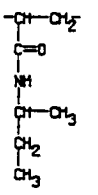
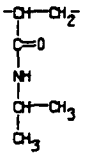
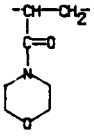
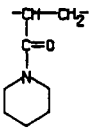
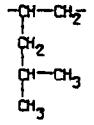
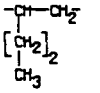
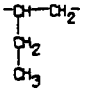
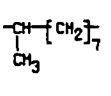
 POLYMER 711 T_g 339	 POLYMER 715 T_g 344	 POLYMER 710 T_g 380	 POLYMER 701 T_g 390	 POLYMER 708 T_g 358
 POLYMER 717 T_g 418	 POLYMER 721 T_g 379	 POLYMER 511 T_g 326	 POLYMER 583 T_g 309	 POLYMER 479 T_g 300
 POLYMER 631 T_g 302	 POLYMER 1046 T_g 241	 POLYMER 951 T_g 262	 POLYMER 350 T_g 237	 POLYMER 1045 T_g 236
 POLYMER 349 T_g 228	 POLYMER 353 T_g 228	 POLYMER 78 T_g 223	 POLYMER 77 T_g 236	 POLYMER 230 T_g 248
 POLYMER 213 T_g 375	 POLYMER 613 T_g 268	 POLYMER 229 T_g 260	 POLYMER 872 T_g 210	 POLYMER 228 T_g 153

Table 2

CHEMICAL STRUCTURES OF SINGLE GROUPS

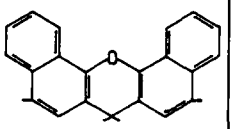
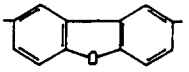
1 SC	 3	 4	 5
 6	 7 SC	 CIS	 TRANS
 14	 15 SC	 16	SYNDIOTACTIC  17
ISOTACTIC  18	19	20 SC	21 SC
 22	 23	24 SC	 25 SC
26	 27 SC	28	29
30 SC	31	32 SC	33
34	CIS 35	36 SC	37

Table 2 (continued)

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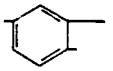
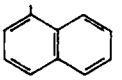
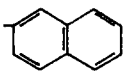
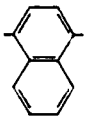
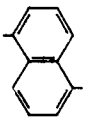
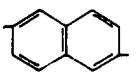
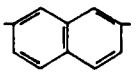
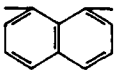
 TRANS 42	 43	 44 SC	 45 SC
 ISOTACTIC 46 SC	 47	 48 SC	 49
 50 SC	 51	 52 SC	 53
 54 SC	 55	 56 SC	 57 SC
 58	 59 SC	 60 SC	 61 SC
 62 SC	 63	 64	 65
 66	 67	 68	 69

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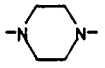
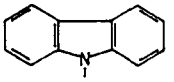
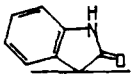
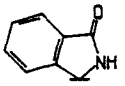
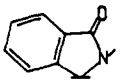
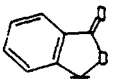
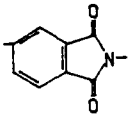
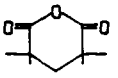
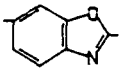
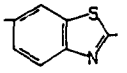
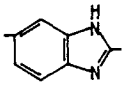
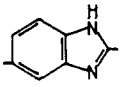
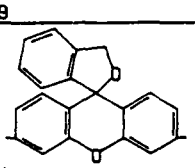
 70 SC	 72	 73 SC	 74 SC
 75 SC	 76	 78	 79 SC
 80	 81	 82	 83
 84	 86	 87	 88
 89	 90	 92	 93
 94	 95 SC	 96 SC	 98 SC
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Table 2 (continued)

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 111 SC	112	 113	 114 SC
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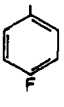
 119 SC	 120	 121	 122 SC
 123	 124 SC	 125 SC	 126
127 SC	 128 SC	 129	 130 SC
 131 SC	 132	 133 SC	 134
 135 SC	 136	 137 SC	 138 SC

Table 2 (continued)

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 156 SC	 157 SC	 159 SC	 160 SC
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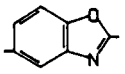
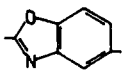
 165	 166	 167	 169 SC
 170	 171 SC	 172	 173 SC

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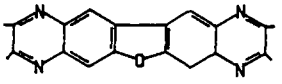
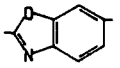
 174 SC	 175		 176
 177 SC	 178 SC	 179	 180 SC
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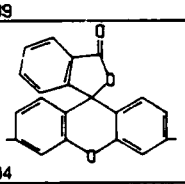
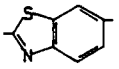
 194	 196	 197	 198
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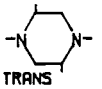
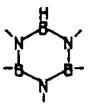
 203	 204	 TRANS 205	 206

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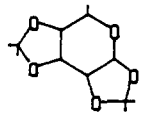
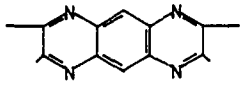
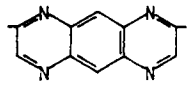
 207 SC	 208		 209
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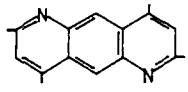
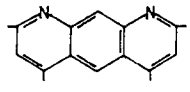
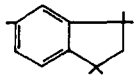
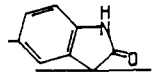
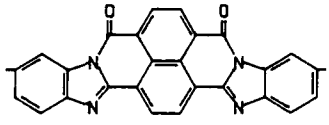
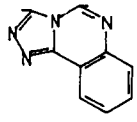
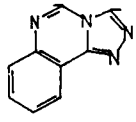
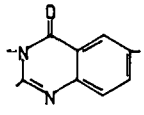
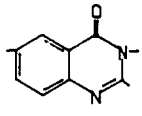
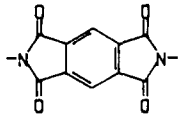
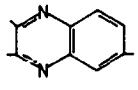
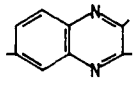
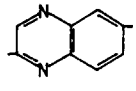
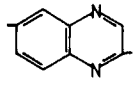
 218 SC	 219	 220	 221
 222	 223	 224	 226
 228		 229	 230
 231	 232	 233	 234
 235	 236	 237	 238

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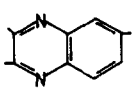
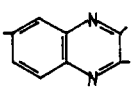
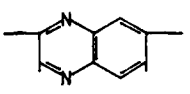
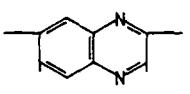
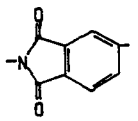
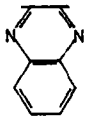
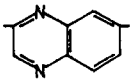
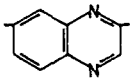
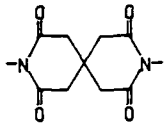
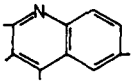
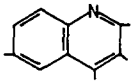
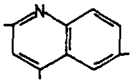
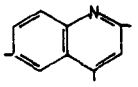
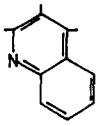
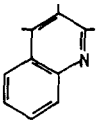
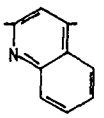
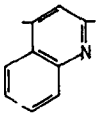
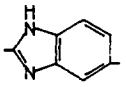
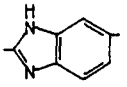
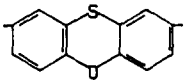
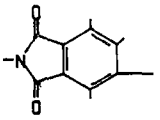
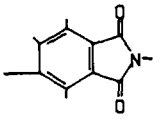
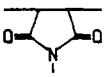
 239	 240	 241	 242
 243	 244	 245	 246
 247	 248	 249	 250
 251	 252	 253	 254
 255	 256	 257	 258
 259	 260	 261	 262
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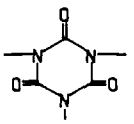
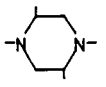
 267	 268	 269	 270

Table 2 (continued)

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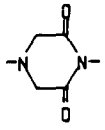
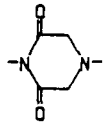
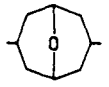
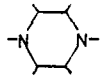
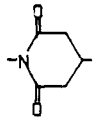
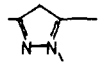
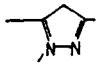
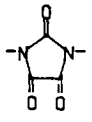
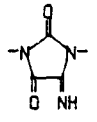
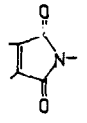
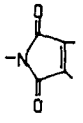
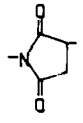
275 	276 	277 	278 
279 	280 	281 	282 
283 	284 	285 	286 
287 	288 	302 	303 
304 	305 	306 	307 
308 	309 	310 	311 
312 	313 	314 	315 

Table 2 (continued)

 316	 317	318	319
320	321	 352 SC	353 SC
354 SC	355 SC	 356 SC	357 SC
 358 SC	 359 SC	360 SC	361 SC
 362 SC	 363 SC	364 SC	365 SC
 366 SC	 367 SC	 368 SC	369 SC
370 SC	371 SC	 402	403
 404	 405	406	407

Table 2 (concluded)

 408	 409	 410	 411	 412
 413	 414	 415	 416	 417
 418	 419	 420	 421	 452 SC
 453 SC	454 SC	 455 SC	 456 SC	 457 SC
 458 SC	 459 SC	 460 SC	 461 SC	462 SC
 463 SC	 464 SC	 465 SC	 466 SC	467 SC
 468 SC	 469 SC	 470 SC	 471 SC	

Table 4

LISTING OF GROUP AND CONSTITUENT SINGLE-GROUP NUMBERS

Group No.	Main single group	Neighbouring groups
3	31	51072.
5	109	32050.
10	132	6132.
12	6	6102.
14	6	6031.
24	51	108121.
26	132	108132.
29	133	111133.
36	132	108136.
43	6	49108.
45	133	104131.
48	109	131136.
50	19	1091091321132.
55	136	1091321132.
57	32	14109.
59	7	7109.
61	109	1007.
64	7	1109.
68	52	7014.
72	7	1007.
80	133	100133.
85	14	6006142.
88	109	7136.
90	108	31031.
93	51	6031.
95	49	31108.
97	108	6051.
99	108	6006.
101	116	6051.
103	108	6031.
105	7	1015.
108	133	14133.
110	31	108108.
114	133	52133.
117	31	108140.
121	149	6006.
123	6	6149.
125	163	31031.
127	49	121132.
129	51	38108.
131	51	121132.
134	129	136136.
136	14	1091321132.
138	132	136136.
140	109	133136.
142	51	31031.
148	19	1006006032.
157	49	132132.
162	151	1091091511151.
164	109	14131.
166	133	133133.
171	19	5105113331333.
173	133	19125.
175	32	52109.
177	31	14108.
179	7	109131.
181	7	109133.
184	14	1006116.
187	32	109153.
190	109	32156.
193	32	109136.
195	136	132132142.
203	132	6108.
206	7	52109.
223	121	1001108108.
229	15	1001007.
231	19	1001006108.
4	19	1001006006.
6	109	32054.
11	102	6031.
13	6	6006.
15	31	6102.
25	121	1001049108.
28	133	104132.
33	104	1081311132.
39	136	1081311132.
44	49	6006.
46	6	51108.
49	109	19131.
51	132	19019.
56	14	6006032.
58	109	7032.
60	7	7007.
63	109	7007.
66	14	6006052.
71	7	7052.
74	14	6006007.
84	136	6006131.
87	31	51108.
89	19	1001051051.
92	51	31108.
94	51	31116.
96	6	51051.
98	6	6108.
100	108	51051.
102	6	6116.
104	31	51102.
107	14	6006133.
109	108	31051.
113	52	14133.
115	51	14108.
120	148	6006.
122	6	6148.
124	140	31031.
126	31	108163.
128	14	1051051.
130	38	51051.
132	136	1091291291.
135	132	14014.
137	136	1251321132.
139	150	6006125.
141	108	6145.
144	145	108108.
153	7	7036.
159	108	6132.
163	109	7151.
165	132	1321332.
169	136	1251361136.
172	14	6006138.
174	6	31031.
176	14	7031031.
178	31	6108.
180	32	109133.
183	133	7133.
185	133	32131.
189	109	14156.
191	156	109131131.
194	133	14131.
197	6	102132.
205	108	6154.
207	154	108154.
226	121	45045108108.
230	7	15109.
232	109	15032.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups
235	7	7014.
237	15	1007109.
242	31	49108.
253	133	109200.
256	109	131133.
263	121	1007108108.
266	121	1045108108.
274	161	14109124.
291	6	14031.
296	32	48105.
298	32	52105.
300	32	1052.
304	35	1006006.
311	109	1161.
319	109	32036.
330	19	6006032125.
334	7	15015.
340	20	1001001109.
355	139	14125.
372	14	1006148.
375	6	14148.
382	19	1006006007.
385	14	6014125.
394	32	14103.
396	103	15032.
400	105	7007032.
405	15	1001103.
410	32	14177.
420	7	48109.
422	109	7055.
426	6	108108.
431	14	1006006.
435	14	1006108.
437	31	6072.
439	109	137151.
442	50	109131.
445	31	102108.
454	108	49049.
457	32	1109.
460	121	1001108186.
462	121	1108108142.
468	6	6121.
470	133	7159.
477	133	100131.
483	55	31031109.
492	19	6006125125.
494	132	6006.
503	14	6006107.
508	121	1001102102.
519	102	6006.
523	6	49102.
526	132	100116.
529	136	100108131.
535	6	17017.
539	51	6006.
541	108	6049.
543	6	116116.
545	116	116116.
547	14	6007116.
549	7	25109.
554	7	1014.
556	31	6116.
559	6	51116.
563	53	1102102.
573	7	14124.
575	7	14125.
578	116	37037.
581	20	7125125125.
586	109	7053.

Group No.	Main single group	Neighbouring groups
236	15	7007007.
239	15	1001109.
247	49	31031.
255	133	7200.
259	109	133133.
265	7	7045.
272	48	14032.
290	15	1007007.
295	116	6006.
297	121	1001006108.
299	32	48103.
303	32	7052.
307	150	1006006.
316	103	1032.
328	109	1032.
332	15	7007109.
338	7	32125.
349	109	7161.
367	109	1052.
373	14	6006048.
377	148	6014.
383	109	48052.
393	103	7032.
395	15	1007103.
399	103	20032.
403	14	6006025.
408	32	14178.
419	15	1001014.
421	7	7131.
424	116	6031.
430	31	108190.
433	108	132136.
436	14	6108160.
438	72	31031.
441	151	1091251151151.
443	109	50151.
452	108	132132.
455	14	1108108.
459	14	6006109.
461	186	1211121.
467	121	1006007108.
469	6	6132.
471	109	7014.
481	109	7190.
490	190	31031109.
493	6	132132.
497	109	1014.
507	133	1104.
509	133	124133.
521	121	7007108108.
525	132	100108.
528	100	1311321136.
531	17	6006025.
538	116	6116.
540	6	6051.
542	7	1052.
544	31	31108.
546	116	6014.
548	7	14109.
551	6	14116.
555	6	19116.
557	7	7015.
561	102	31053.
572	14	6007108.
574	53	102102109.
576	7	14020.
579	37	116116.
584	109	7156.
588	121	1001006006.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups
589	6	121121.
591	26	31031.
593	6	31116.
595	100	1311321321.
597	132	31132.
601	34	31031.
603	121	1006006052.
606	105	10010521.
608	121	1045104104.
610	104	1211211221.
614	109	14032.
616	7	19032.
621	50	109125.
624	15	1109131.
627	6	14019.
629	109	45151.
631	48	7014.
634	52	109125.
637	151	125125151151.
639	32	7109.
641	116	51051.
643	116	132132.
645	6	14108.
647	105	1001151.
651	51	6108.
654	19	1045051051.
656	6	6033.
658	78	1006006.
663	40	7051051.
665	51	40108.
667	120	51051.
669	6	33108.
673	51	108108.
675	126	121121.
678	222	1001001051108.
681	109	7183.
683	7	1032.
686	48	32125.
689	184	32032149149.
691	32	109184.
693	7	1105.
696	20	1001001103.
699	104	6007031.
704	31	6104.
707	108	6014.
709	7	45104.
711	100	133136136.
715	14	6006131.
718	109	7133.
722	82	1051051.
725	100	132133136.
730	83	51051.
732	32	1136.
734	121	1108108187.
738	51	81108.
742	117	7007.
745	7	24117.
748	7	7127.
751	132	116116.
754	7	1117.
759	121	1006006045.
768	133	131133.
772	133	7131.
776	133	109131.
778	130	131133.
781	109	32052.
784	14	1031031.
788	19	6006032128.
791	167	132132.

Group No.	Main single group	Neighbouring groups
590	31	26108.
592	132	100132.
594	100	1321321321.
596	31	108132.
599	31	34108.
602	102	121121.
605	52	105121.
607	121	60060450521.
609	133	125133.
612	133	1001001104.
615	132	19109.
619	200	1001001007.
623	109	32045.
625	109	52151.
628	52	1109.
630	56	6014.
632	52	7109.
636	109	1151.
638	7	7032.
640	7	45109.
642	51	116116.
644	151	105105151151.
646	19	1001006051.
649	14	10060521.
653	7	32044.
655	33	6006.
657	19	1001039051.
660	51	39108.
664	7	1040.
666	51	108120.
668	51	41108.
671	15	1001041.
674	6	78108.
676	121	1001108126.
679	7	7183.
682	108	6222.
684	32	45109.
688	32	109183.
690	149	184184.
692	6	6078.
694	105	7007007.
698	109	7052.
700	7	1104.
706	104	10060321.
708	14	6045108.
710	121	1001051108.
712	14	45051051.
716	109	1015.
721	51	82108.
724	100	131136136.
726	109	32183.
731	7	109183.
733	31	55108.
737	81	51051.
741	7	7117.
743	7	7024.
746	187	121125.
750	109	7015.
752	117	1007.
756	14	6006098.
761	129	129129.
770	134	134134.
773	133	109133.
777	133	7130.
780	135	7007007109.
782	132	24109.
785	132	32109.
790	133	133200.
792	136	131132132.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups
793	50	1109.
795	132	49132.
797	6	108132.
800	49	108132.
802	109	32135.
809	6	19019.
814	7	7135.
817	136	6006032.
819	7	1103.
821	105	7007151.
824	151	124124151151.
827	19	51051131131.
829	7	24052.
833	6	14014.
839	19	1007051051.
841	7	1019.
843	14	7051051.
846	6	19108.
848	7	19125.
851	32	20109.
860	14	6006164.
870	7	24109.
874	108	121121.
884	7	7121.
890	186	6006.
903	109	20032.
905	55	108108122.
910	32	95109.
924	7	1121.
929	122	1001109109.
933	7	15020.
952	39	1019051.
955	165	19108125.
965	51	121121.
970	224	19108125125.
975	108	6113.
980	52	14032.
982	108	104132.
986	32	96109.
989	113	108108133.
991	113	45108108.
993	7	1055.
995	109	14030.
997	132	51132.
1001	32	48109.
1006	132	84132.
1009	7	7055.
1012	133	55133.
1016	31	55102.
1019	31	49102.
1022	15	1001052.
1024	32	50109.
1027	52	32111.
1030	109	32048.
1032	109	1050.
1034	52	7032.
1036	50	1032.
1038	52	32125.
1040	52	32124.
1043	15	1001032.
1045	15	32125125.
1047	14	6006117.
1049	109	14015.
1051	7	7119.
1053	7	1119.
1056	109	32060.
1059	52	109109.
1061	52	7024.
1063	132	132170.

Group No.	Main single group	Neighbouring groups
794	49	31132.
796	151	103105151151.
799	49	31049.
801	108	31049.
807	19	6006007032.
810	7	7019.
816	108	6162.
818	103	7151.
820	201	1014.
822	151	103103151151.
826	7	109109.
828	15	7024125.
830	6	6019.
838	52	20032.
840	51	19108.
842	14	15051051.
844	32	19103.
847	19	6006007007.
849	6	6150.
856	14	6006161.
864	7	7105.
871	6	6186.
877	108	6019.
888	121	1007108126.
891	6	6035.
904	14	6006050.
909	20	1001001052.
915	122	1001055109.
925	109	122122.
930	108	14014.
951	122	1001045109.
953	41	1015051051.
959	51	108222.
969	121	1007101108.
973	14	6020108.
979	109	7113.
981	104	108132133.
985	7	7103.
988	113	108108109.
990	133	113133.
992	113	1108108.
994	113	105108108.
996	51	31132.
1000	108	14031.
1004	31	72108.
1008	108	31055.
1010	55	7108108.
1015	6	19121.
1017	55	1031031.
1021	20	1001001032.
1023	52	32045.
1025	50	32111.
1029	48	32109.
1031	50	32109.
1033	109	1048.
1035	52	1032.
1037	48	1032.
1039	50	32125.
1041	50	32124.
1044	20	32125125125.
1046	105	1001113.
1048	117	1014.
1050	132	132167.
1052	119	7007.
1054	7	7124.
1057	60	109125125125125125.
1060	48	109125.
1062	54	109125125.
1064	50	105109.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups
1065	105	1001050.
1069	20	7007007007.
1071	49	108108.
1073	109	1019.
1075	15	1007107.
1082	102	31049.
1085	31	84084.
1093	108	51099.
1096	224	1001019108.
1099	55	108108111.
1102	51	93108.
1106	6	6104.
1108	118	51051.
1110	110	51051.
1112	51	108116.
1114	19	45045051051.
1116	37	14051.
1118	51	68108.
1120	51	92092.
1122	92	45049051.
1133	33	1104.
1135	33	7104.
1137	33	45104.
1139	33	62104.
1142	153	332133.
1144	101	121121.
1149	14	6006139.
1151	49	121121.
1153	102	31186.
1156	108	84084.
1161	186	102102.
1163	148	184184.
1165	26	183183.
1167	183	26026032.
1169	26	184184.
1171	50	14032.
1173	109	1164.
1175	32	50103.
1181	51	10175.
1185	170	6102.
1190	170	49102.
1196	51	116179.
1200	49	93093.
1202	51	93093.
1204	6	108181.
1207	6	34034.
1211	181	6006.
1215	181	6053.
1220	6	188189.
1226	197	31031.
1228	31	102197.
1230	102	31034.
1232	6	34102.
1234	49	102102.
1236	51	102102.
1238	198	102102.
1240	104	6015031.
1242	104	1031051.
1244	31	108197.
1249	31	72197.
1251	202	24024072072.
1255	204	6031.
1258	205	1001031031.
1260	206	4804804810881108.
1262	48	131206.
1264	228	108108.
1266	47	47108.
1268	64	108108.
1270	108	51228.

Group No.	Main single group	Neighbouring groups
1068	7	20109.
1070	105	1001007.
1072	55	31031133.
1074	19	10060061109.
1076	132	104132.
1084	84	31051.
1086	84	31049.
1094	99	108108.
1098	108	510555.
1101	31	551051.
1103	93	551051.
1107	51	108118.
1109	51	108110.
1111	132	108170.
1113	51	51108.
1115	14	1037051.
1117	51	37108.
1119	68	510551.
1121	49	92092.
1124	6	1361126.
1134	104	6006032.
1136	32	15104.
1138	7	15032.
1141	32	104133.
1143	121	1001101108.
1148	14	6006201.
1150	14	6006137.
1152	121	1045049108.
1154	55	1108108.
1157	108	1001032.
1162	184	32032148148.
1164	183	7026026.
1166	183	26026109.
1168	184	260260320320.
1170	103	1151.
1172	164	14109124.
1174	109	7164.
1180	175	45045051051.
1184	6	6170.
1187	102	31167.
1194	51	108179.
1197	6	6179.
1201	93	49051.
1203	51	83093.
1205	181	6034.
1208	34	6188.
1213	6	6188.
1218	181	6189.
1225	51	108196.
1227	31	104197.
1229	102	31102.
1231	34	6102.
1233	34	6006.
1235	102	31051.
1237	51	102108.
1239	102	31198.
1241	15	1001104.
1243	51	104104.
1245	108	31199.
1250	72	31202.
1254	6	6204.
1257	31	197203.
1259	31	197205.
1261	108	206206.
1263	206	4504504510810 8.
1265	108	47228.
1267	108	64228.
1269	108	49228.
1271	208	45045049049.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups	Group No.	Main single group	Neighbouring groups
1272	49	208208.	1273	208	45045051051.
1274	51	208208.	1275	209	51051.
1276	51	209209.	1277	51	108209.
1278	220	45045051051.	1279	51	51220.
1280	221	45045051051.	1281	51	51221.
1282	51	108220.	1283	51	108221.
1287	230	49231.	1290	233	1006049.
1292	51	102232.	1293	233	1006051.
1295	51	6232.	1297	51	108232.
1298	6	6234.	1299	234	6006.
1301	108	6147.	1302	302	6006.
1303	303	6006.	1304	304	6006.
1305	305	6006.	1306	306	6006.
1307	307	6006.	1308	308	6006.
1309	309	6006.	1312	312	6006.
1314	314	6006.	1321	321	6006.
1352	352	7007.	1353	353	7007.
1354	354	7007.	1355	355	7007.
1356	356	7007.	1357	357	7007.
1358	358	7007.	1359	359	7007.
1360	360	7007.	1361	361	7007.
1363	363	7007.	1364	364	7007.
1365	365	7007.	1366	366	7007.
1400	108	6199.	1402	402	1321321.
1403	403	1321321.	1404	404	1321321.
1405	405	1321321.	1406	406	1321321.
1408	408	1321321.	1421	421	1321321.
1452	452	1331331.	1453	453	1331331.
1454	454	1331331..	1455	455	1331331.
1456	456	1331331.	1457	457	1331331.
1500	234	51051.	1501	51	14234.
1502	234	49049.	1503	49	31234.
1504	31	49049.	1505	234	49051.
1506	31	49051.	1507	51	31234.
1508	51	38234.	1513	51	108234.
1523	51	116234.	1527	51	51237.
1530	51	108237.	1531	51	51051.
1535	51	108239.	1536	52	124239.
1540	240	31049052.	1542	52	109239.
1543	109	52052.	1544	52	109240.
1547	52	45239.	1549	52	7239.
1551	52	24239.	1553	52	107239.
1558	52	109241.	1559	21	45241.
1565	51	51239.	1573	51	102239.
1574	52	1239.	1578	240	31045051.
1580	240	31045049.	1581	55	31031032.
1582	32	55109.	1583	239	45051108.
1586	239	45051120.	1591	238	31051.
1592	244	102102.	1593	102	31244.
1594	237	51108.	1597	237	51120.
1600	247	6006.	1601	6	6247.
1602	247	51051.	1603	51	108247.
1604	248	45045051108.	1608	51	51248.
1611	51	108248.	1612	250	45250250.
1613	250	45051108.	1617	51	51250.
1620	51	108250.	1621	252	45051051.
1623	51	108253.	1626	51	51252.
1628	254	51051.	1629	51	108254.
1630	51	108255.	1633	51	51254.
1634	254	49051.	1639	90	6049.
1642	90	6051.	1644	51	108256.
1645	256	49108.	1648	256	51108.
1650	256	49120.	1660	102	6100.
1661	100	102102105.	1663	105	7007100.
1669	102	51100.	1670	51	102257.
1671	105	45045100.	1673	6	6257.
1676	102	31064.	1677	64	102243.
1678	51	51102.	1679	51	51243.
1681	84	31055.	1683	32	45055.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups
1690	102	49100.
1692	105	1001100.
1694	102	49259.
1697	51	6243.
1700	100	45051051.
1702	31	84102.
1708	243	6031.
1714	6	6243.
1721	121	1001051084.
1724	51	121243.
1726	108	49132.
1730	84	19051.
1736	84	19049.
1740	51	116243.
1760	51	102243.
1762	51	102120.
1764	120	49049.
1766	260	4504504549051.
1772	260	4504504551051.
1775	51	108260.
1780	47	47256.
1783	7	7262.
1800	100	49102174.
1803	100	51102174.
1809	51	108263.
1812	100	108108125.
1817	52	109265.
1824	51	108265.
1827	52	7265.
1831	52	107265.
1845	100	45108108.
1849	132	132266.
1855	108	100199.
1858	104	45100259.
1860	265	45049231.
1866	51	6265.
1871	268	51231.
1873	269	6006045.
1876	6	6276.
1879	4	120120.
1904	9	31031.
1906	55	31031111.
1910	14	1031116.
1912	6	6269.
1914	7	7269.
1916	270	1001031031.
1918	31	270271.
1920	31	102270.
1925	31	270272.
1927	31	270273.
1929	31	270274.
1933	31	108270.
1937	102	49270.
1939	102	31270.
1941	6	31275.
1944	6	49276.
1946	47	31047.
1948	277	108108.
1950	102	5051.
1954	31	102102.
1956	278	1001001001031031.
1958	279	31031.
1962	279	102116.
1965	6	6281.
1967	92	6006174.
1969	49	92102.
1973	282	45049049.
1977	283	45049051.
1979	51	6284.

Group No.	Main single group	Neighbouring groups
1691	49	102243.
1693	100	45102102.
1695	259	102102.
1698	51	108243.
1701	51	100243.
1703	51	120243.
1710	31	84108.
1717	243	51121.
1723	121	4504505 1051.
1725	243	49132.
1727	49	108243.
1733	84	19064.
1738	108	49051.
1753	243	49108.
1761	51	6102.
1763	49	102120.
1765	49	120243.
1770	49	108260.
1774	51	108261.
1777	51	6260.
1781	262	72622262.
1790	51	19031.
1801	49	100102.
1804	51	100102.
1811	51	116263.
1813	108	51100.
1819	52	45265.
1825	52	124265.
1829	52	24265.
1844	51	116265.
1846	265	45049132.
1851	265	45051132.
1857	259	104104.
1859	100	45104104.
1863	265	45051231.
1867	263	51231.
1872	51	108268.
1874	6	31269.
1878	120	4004.
1900	6	34108.
1905	31	9108.
1909	116	14031.
1911	31	14116.
1913	269	6006007.
1915	269	1006006.
1917	31	6270.
1919	271	1001031031.
1921	102	31147.
1926	272	1031031.
1928	273	1031031.
1930	274	1031031.
1936	270	1001031102.
1938	270	1001102102.
1940	31	51270.
1942	275	6006.
1945	31	47072.
1947	108	31277.
1949	31	49072.
1953	72	102102.
1955	102	31072.
1957	31	102278.
1959	31	102279.
1963	102	31279.
1966	281	6006.
1968	6	92306.
1970	92	45049049.
1976	282	45051051.
1978	282	45049051.
1980	284	51051.

Table 4 (continued)

Group No.	Main single group	Neighbouring groups
1981	51	108284.
1983	284	6051.
1985	51	108285.
1987	51	6285.
1989	285	6051.
1991	285	6006.
1993	6	6288.
1995	108	512286.
1999	287	51108125.
2005	147	108108125.
2010	51	108287.
2013	121	1001101101.
2015	16	121121.
2017	3	1001120120.
2019	108	51120.
2022	102	6120.
2030	7	1262.
2032	7	20125.
2041	49	132243.
2043	108	51147.
2046	6	19120.
2048	5	102102.
2050	52	15032.
2052	102	5072.
2055	136	6108131.
2060	179	51179.
2062	51	237237.
2065	239	49052239.
2067	239	45051239.
2073	257	6257.
2075	31	51084.
2078	49	260260.
2080	49	265265.
2084	49	282282.
2086	49	283283.
2089	19	1001224224.
2098	51	102256.
2113	49	108287.
2116	15	1007199.
2123	84	31064.
2127	265	51052265.
2130	263	51263.
2132	19	1001165165.
2137	49	287287.
2143	196	51196.
2145	19	131131224224.
2148	241	21049052241.
2150	239	51052239.
2154	6	233233.
2158	51	252252.
2161	49	254254.
2164	6	90090.
2166	239	45049239.
2168	256	49256.
2171	267	45051265.
2173	51	265267.
2175	257	49120.
2178	49	256257.
2180	6	14188.
2183	120	240240.
2185	108	238238.
2187	49	31232.
2190	108	251251.
2192	51	261261.
2194	64	243243.
2197	49	243243.
2199	231	266266.
2201	116	280280.
2203	108	165286.

Group No.	Main single group	Neighbouring groups
1982	6	284304.
1984	51	51284.
1986	285	51051.
1988	6	285304.
1990	51	51285.
1992	288	6006.
1994	6	288288.
1998	51	6287.
2003	108	147286.
2008	287	49108125.
2011	108	49286.
2014	121	1001016108.
2016	108	49277.
2018	120	3108.
2021	120	3102.
2024	108	84132.
2031	7	14015.
2040	243	51132.
2042	20	1001001014.
2044	108	51199.
2047	120	6006.
2049	120	4051.
2051	32	15109.
2054	6	108136.
2058	51	234239.
2061	237	51237.
2063	31	240240.
2066	49	239239.
2068	51	239239.
2074	19	84084131131.
2077	51	260260.
2079	265	49052265.
2081	51	265265.
2085	51	282282.
2087	51	283283.
2093	6	196306.
2111	6	256303.
2115	199	1015108108.
2117	199	1001108108.
2126	265	45051265.
2128	265	1051265.
2131	51	263263.
2133	147	1102147.
2139	179	6179.
2144	196	6196.
2146	231	229229.
2149	49	241241.
2152	31	238238.
2157	51	248248.
2160	51	250250.
2163	49	256256.
2165	256	47256.
2167	265	45049265.
2169	49	170170.
2172	265	45051267.
2174	231	264268.
2176	120	89090.
2179	53	1188188.
2182	108	240240.
2184	51	239243.
2186	120	238238.
2188	108	249249.
2191	108	90090.
2193	121	1001084084.
2196	55	32243243.
2198	51	243243.
2200	231	264264.
2202	108	199286.
2205	108	199224.

Table 4 (concluded)

Group No.	Main single group	Neighbouring groups	Group No.	Main single group	Neighbouring groups
2206	189	1001001006188.	2207	49	230230.
2208	256	51257.	2209	257	51256.
2210	256	6257.	2211	257	6256.
2212	109	54151.			

Table 5

POLYMER STRUCTURES IN NUMERICAL TERMS

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	1	8	219	56 1 57 1 58 1 59 1 60 1 72 2 833 1
*	2	8	251	56 1 57 1 105 2 232 1 237 2 833 1
*	4	10	223	56 1 57 1 58 1 59 1 741 2 742 1 743 2 833 1
*	5	11	215	56 1 57 1 58 1 59 1 60 1 741 2 742 1 743 2 833 1
*	6	9	249	56 1 57 1 58 1 59 1 741 1 742 1 745 2 833 1
*	7	13	214	56 1 57 1 58 1 59 1 741 1 742 1 745 2 833 1 1354 4
*	8	11	215	56 1 57 1 58 1 59 1 60 1 741 2 742 1 743 2 833 1
*	9	5	292	56 1 57 1 319 2 833 1
*	10	9	223	56 1 57 1 58 1 59 2 63 1 64 2 833 1
*	11	10	218	56 1 57 1 58 1 59 2 60 1 63 1 64 2 833 1
*	12	6	249	56 1 57 1 58 1 64 2 833 1
*	13	10	223	56 1 57 1 58 1 105 4 230 1 236 1 833 1
*	14	12	223	56 1 57 1 58 1 60 1 72 2 105 2 230 1 236 1 557 1 833 1
*	15	15	233	56 1 57 1 60 1 72 2 105 2 232 1 236 1 237 2 557 3 833 1
*	16	9	202	56 1 57 1 58 1 59 1 741 1 742 1 754 2 833 1
*	17	10	197	56 1 57 1 58 1 59 1 60 1 741 1 742 1 754 2 833 1
*	18	11	235	56 1 57 1 72 2 232 1 237 2 557 1 833 1 1352 2
*	21	7	270	56 1 57 1 232 1 239 3 833 1
*	22	8	223	56 1 57 1 58 1 59 2 61 2 833 1
*	23	9	198	56 1 57 1 58 1 59 2 60 1 61 2 833 1
*	24	5	283	56 1 57 1 328 2 833 1
*	25	9	241	56 1 57 1 58 1 105 2 230 1 290 2 833 1
*	26	9	228	56 1 57 1 58 1 59 1 229 3 557 1 833 1
*	27	18	253	56 1 57 1 60 1 72 2 105 2 229 3 232 1 236 1 332 1 334 1 557 3 833 1
*	28	10	235	56 1 57 1 58 1 72 2 230 1 290 2 557 1 833 1
*	29	10	258	56 1 57 1 229 3 232 1 237 2 334 1 833 1
*	30	10	203	56 1 57 1 58 1 59 1 741 1 752 2 833 1 1352 2
*	31	8	213	56 1 57 1 58 1 59 1 741 1 752 2 833 1
*	32	9	208	56 1 57 1 58 1 59 1 60 1 741 1 752 2 833 1
*	33	12	228	56 1 57 1 72 2 232 1 237 2 557 1 833 1 1353 3
*	34	9	267	56 1 57 1 105 4 232 1 332 1 833 1
*	35	7	236	56 1 57 1 58 1 59 1 72 2 833 1
*	36	6	279	56 1 57 1 58 1 640 2 833 1
*	37	7	277	56 1 57 1 58 1 59 1 743 2 833 1
*	38	8	340	56 1 57 1 175 1 328 2 781 1 785 1 833 1
*	39	6	365	56 1 57 1 781 1 782 2 833 1
*	40	5	330	56 1 57 1 623 2 833 1
*	41	7	270	56 1 57 1 58 1 59 1 265 2 833 1
*	42	9	293	58 1 59 1 60 1 72 2 148 2 615 1 809 1
*	43	9	331	105 2 148 2 232 1 237 2 615 1 809 1
*	44	9	381	148 2 340 4 615 1 809 1 903 1
*	45	6	380	148 2 319 2 615 1 809 1

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	46	13	263	58 1 60 1 72 2 105 2 148 2 230 1
			236 1	557 1 615 1 809 1
*	47	7	338	58 1 64 2 148 2 615 1 809 1
*	49	9	327	58 1 148 2 229 3 230 1 615 1 809 1
*	50	8	354	148 2 232 1 239 3 615 1 809 1
*	52	6	378	148 2 328 2 615 1 809 1
*	53	6	383	148 2 615 1 623 2 809 1
*	54	8	308	58 1 59 1 72 2 148 2 615 1 809 1
*	55	7	327	58 1 148 2 615 1 640 2 809 1
*	56	9	379	148 2 175 1 328 2 615 1 781 1 785 1
			809 1	
*	57	8	364	58 1 59 1 148 2 615 1 743 2 809 1
*	58	7	428	148 2 615 1 781 1 782 2 809 1
*	59	8	299	58 1 59 1 148 2 265 2 615 1 809 1
*	60	9	315	58 1 59 1 60 1 72 2 330 2 615 1
			809 1	
*	63	7	351	58 1 64 2 330 2 615 1 809 1
*	66	6	398	328 2 330 2 615 1 809 1
*	67	8	329	58 1 59 1 72 2 330 2 615 1 809 1
*	68	13	235	72 2 98 4 99 1 103 2 176 1 177 2
			235 1	
*	69	15	226	72 2 98 4 99 1 103 2 176 1 177 2
			235 1	1352 2
*	70	17	215	72 2 98 4 99 1 103 2 176 1 177 2
			235 1	1354 4
*	71	19	214	72 2 98 4 99 1 103 2 176 1 177 2
			235 1	1356 6
*	72	7	279	60 1 66 1 68 1 71 1 72 2 833 1
*	73	9	246	66 1 68 1 71 1 72 2 833 1 1353 3
*	74	11	228	66 1 68 1 71 1 72 2 833 1 1355 5
*	75	12	220	66 1 68 1 71 1 72 2 833 1 1356 6
*	76	13	208	66 1 68 1 71 1 72 2 833 1 1357 7
*	77	5	236	72 2 74 1 235 1 833 1
*	78	6	223	60 1 72 2 74 1 235 1 833 1
*	79	5	230	64 2 459 1 471 1 833 1
*	80	7	218	59 1 60 1 72 2 459 1 471 1 833 1
*	81	8	207	59 1 72 2 459 1 471 1 833 1 1352 4
*	82	9	196	59 1 72 2 459 1 471 1 833 1 1353 3
*	83	9	295	56 1 57 1 58 1 619 4 833 1 1068 1
*	86	11	213	56 1 57 1 58 1 59 1 72 2 833 1
			1354 4	
*	87	20	193	56 1 57 1 58 1 59 1 72 2 833 1
			1363 13	
*	89	10	216	56 1 57 1 58 1 59 1 72 2 833 1
			1353 3	
*	89	13	215	56 1 57 1 58 1 59 1 72 2 833 1
			1356 6	
*	90	12	208	56 1 57 1 58 1 59 1 72 2 833 1
			1355 5	
*	91	8	243	56 1 57 1 58 1 181 1 183 1 768 2
			833 1	
*	92	6	263	56 1 57 1 58 1 179 2 833 1
*	94	7	247	56 1 57 1 58 1 181 1 772 2 833 1
*	95	9	236	56 1 57 1 58 1 166 1 181 1 183 1
			768 2	833 1
*	96	10	234	56 1 57 1 58 1 181 1 183 1 768 2
			833 1	1452 2
*	97	12	256	56 1 57 1 58 1 181 1 183 1 768 2
			833 1	1454 4
*	98	9	218	56 1 57 1 58 1 181 1 183 1 256 2
			773 1	833 1
*	99	10	224	56 1 57 1 58 1 181 1 183 1 259 1
			773 1	776 2 833 1
*	100	11	205	56 1 57 1 58 1 181 1 183 1 259 1
			768 2	773 2 833 1
*	101	12	205	56 1 57 1 58 1 166 1 181 1 183 1
			259 1	768 2 773 2 833 1
*	102	11	228	56 1 57 1 58 1 59 2 63 1 181 1
			183 1	768 2 833 1

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	103	12	233	56 1 57 1 58 1 59 4 63 1 253 2
			718 1 833 1	
*	104	9	235	56 1 57 1 58 1 59 2 63 1 179 2
			835 1	
*	105	9	251	56 1 57 1 58 1 59 2 253 2 718 1
			833 1	
*	106	8	251	56 1 57 1 58 1 181 1 777 1 778 2
			833 1	
*	107	9	238	56 1 57 1 58 1 166 1 181 1 183 1
			790 2 833 1	
*	108	8	339	148 2 232 1 615 1 624 3 809 1
*	111	12	292	58 1 59 1 148 2 615 1 693 4 694 1
			809 1 864 1	
*	115	10	268	58 1 59 1 72 2 148 2 615 1 809 1
			1352 2	
*	116	11	268	58 1 59 1 72 2 148 2 615 1 809 1
			1353 3	
*	119	17	218	58 1 59 1 72 2 148 2 615 1 809 1
			1359 9	
*	128	8	401	148 2 615 1 632 1 781 1 809 1 829 2
*	149	4	385	355 2 833 1 1149 1
*	160	5	300	66 1 68 1 542 2 833 1
*	170	15	221	66 1 68 1 71 1 72 2 833 1 1359 9
*	171	17	237	66 1 68 1 71 1 72 2 833 1 1361 11
*	172	19	278	66 1 68 1 71 1 72 2 833 1 1363 13
*	174	22	305	66 1 68 1 71 1 72 2 833 1 1366 16
*	176	6	386	66 1 175 1 328 2 833 1 980 1
*	185	11	253	59 1 63 1 66 1 68 1 72 2 206 1
			833 1 1353 3	
*	186	13	231	59 1 63 1 66 1 68 1 72 2 206 1
			833 1 1355 5	
*	188	12	235	59 3 60 1 63 2 66 1 68 1 72 2
			206 1 833 1	
*	190	13	250	66 1 68 1 72 2 105 2 206 1 332 1
			557 1 750 1 833 1 1352 2	
*	199	3	363	137 2 138 1
*	213	3	375	756 2 833 1
*	214	6	298	338 2 459 1 614 1 639 1 833 1
*	215	4	239	459 1 497 2 833 1
*	216	7	253	229 3 230 1 459 1 471 1 833 1
*	218	4	306	459 1 833 1 995 2
*	219	5	306	457 2 459 1 614 1 833 1
*	222	1	356	761 1
*	223	2	233	493 1 494 1
*	225	1	400	1421 1
*	226	3	420	138 1 792 2
*	227	11	244	98 4 99 1 103 2 177 2 784 2
*	228	1	153	1321 1
*	229	3	260	431 2 833 1
*	230	4	248	74 1 554 2 833 1
*	231	4	200	4 3 809 1
*	232	5	263	4 3 830 2
*	234	8	357	87 2 90 1 92 2 97 2 426 1
*	235	9	318	87 2 90 1 92 2 97 2 98 2
*	236	10	368	13 1 87 2 90 1 92 2 97 2 98 2
*	237	10	325	13 1 90 1 95 2 98 2 242 2 541 2
*	238	11	348	87 2 90 1 92 2 97 2 98 2 1302 2
*	239	12	326	87 2 90 1 92 2 97 2 98 2 1303 2
*	240	12	334	90 1 95 2 98 2 242 2 541 2 1303 2
*	241	10	325	87 2 90 1 92 2 97 2 99 1 426 2
*	242	12	314	87 2 90 1 92 2 97 2 98 4 99 1
*	243	6	395	87 2 90 1 93 2 96 1
*	244	9	319	87 2 90 1 93 2 540 2 1302 2
*	245	10	312	87 2 90 1 93 2 540 2 1303 3
*	246	8	333	87 2 89 3 90 1 1790 2
*	247	11	335	87 2 90 1 94 2 101 2 102 2 1302 2
*	248	8	371	87 2 90 1 165 1 996 2 997 2
*	250	7	403	109 2 110 1 115 2 128 2
*	251	8	418	89 3 109 2 110 1 840 2
*	252	9	407	109 2 110 1 839 2 840 2 841 2

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	253	9	396	72 2 108 2 110 1 115 2 235 1 843 1
*	254	9	422	109 2 110 1 115 2 419 3 842 1
*	255	6	448	109 2 110 1 129 2 130 1
*	256	12	453	110 1 970 6 1245 2 2089 3
*	257	7	394	109 2 110 1 115 2 712 2
*	258	8	449	109 2 110 1 654 3 840 2
*	260	8	319	110 1 165 1 795 2 800 2 801 2
*	262	11	244	14 2 98 4 99 1 103 2 178 2
*	263	17	199	14 2 98 4 99 1 103 2 178 2 1306 6
*	264	14	213	14 2 98 4 99 1 103 2 178 2 1303 [illegible]
*	265	19	202	14 2 98 4 99 1 103 2 178 2 1308 [illegible]
*	266	13	227	14 2 98 4 99 1 103 2 178 2 1302 2
*	267	10	244	98 4 99 1 103 2 174 1 178 2
*	268	16	205	14 2 98 4 99 1 103 2 178 2 1305 5
*	269	25	205	14 2 98 4 99 1 103 2 178 2 1314 14
*	270	15	212	14 2 98 4 99 1 103 2 178 2 1304 4
*	271	9	265	98 4 99 1 103 2 544 2
*	272	12	226	13 1 14 2 98 4 99 1 103 2 178 2
*	274	7	324	98 2 103 2 242 2 243 1
*	277	10	231	14 2 98 2 103 2 178 2 1302 2
*	281	7	323	98 2 103 2 438 1 1004 2
*	282	7	339	87 2 98 2 103 2 142 1
*	284	11	264	87 2 98 2 103 2 142 1 1304 4
*	287	13	204	14 2 98 2 103 2 178 2 1302 2 1303 [illegible]
*	295	11	214	13 1 14 2 98 2 103 2 178 2 1302 2 [illegible]
*	296	16	216	14 2 98 2 103 2 178 2 1302 2 1306 6
*	297	8	400	109 2 129 2 130 1 242 2 243 1
*	301	10	457	89 3 109 2 242 2 243 1 840 2
*	307	14	345	165 2 242 2 794 2 795 4 800 2 801 2
*	308	13	216	10 2 14 2 103 2 165 1 178 2 797 2
			1302 2	
*	309	11	318	10 2 103 2 165 1 242 2 797 2 799 2
*	310	14	290	10 2 103 2 165 2 242 2 794 2 795 2
			797 2	
*	311	3	243	455 2 930 1
*	314	5	203	554 2 572 1 645 1 707 1
*	315	7	308	645 1 707 1 973 1 2042 4
*	316	8	265	99 1 846 2 847 1 848 4
*	317	15	232	72 2 235 1 572 1 645 1 707 1 1357 7
*	318	3	206	98 2 99 1
*	319	11	403	97 2 457 2 459 1 614 1 645 2 666 2
			667 1	
*	320	13	399	97 2 459 1 614 1 645 2 654 3 684 2
			840 2	
*	321	14	339	89 3 97 2 459 1 614 1 645 2 686 2
			840 2 1001 1	
*	322	13	338	89 3 97 2 459 1 614 1 645 2 684 2
			840 2	
*	323	14	348	97 2 115 1 503 2 627 1 645 2 646 3
			649 2 840 1	
*	324	9	353	96 1 97 2 503 2 645 2 651 2
*	325	12	368	97 2 115 2 419 3 503 2 645 2 842 1
*	326	11	373	89 3 97 2 503 2 645 2 840 2
*	327	11	388	97 2 503 2 645 2 654 2 840 2
*	328	13	408	97 2 503 2 645 2 657 3 660 1 840 1
			952 2	
*	329	11	413	97 2 503 2 645 2 663 1 664 2 665 2
*	330	9	428	97 2 503 2 645 2 666 2 667 1
*	331	13	448	97 2 503 2 645 2 668 2 671 3 953 2
*	332	7	333	97 2 503 2 645 2 673 1
*	333	13	358	503 2 645 2 955 4 1501 2 2132 3
*	334	15	388	503 2 645 2 970 6 1400 2 2089 3
*	335	11	393	97 1 503 2 645 2 678 4 682 1 959 1
*	336	14	338	89 3 97 2 338 2 459 1 614 1 639 1
			645 2 840 2	
*	337	13	333	89 3 97 2 457 2 459 1 614 1 645 2
			840 2	
*	338	14	333	89 3 97 2 459 1 614 1 639 1 645 2
			683 2 840 2	
*	339	9	322	97 2 457 2 459 1 614 1 645 2 673 1

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs													
*	340	17	373	457	2	459	1	614	1	645	2	970	6	1400	2		
			2089 3														
*	341	13	383	97	2	457	2	459	1	614	1	645	2	654	3		
			840 2														
*	342	13	380	97	2	457	2	459	1	614	1	645	2	663	1		
			664 2	665 2													
*	343	5	264	231	3	846	1	877	1								
*	344	2	191	99	1	426	1										
*	345	4	198	435	2	645	1	707	1								
*	346	4	314	645	1	707	1	708	2								
*	347	5	188	98	2	99	1	1302	2								
*	349	10	228	72	2	74	1	235	1	833	1	1355	5				
*	350	12	237	72	2	74	1	235	1	833	1	1357	7				
*	353	8	228	72	2	74	1	235	1	833	1	1353	3				
*	355	9	394	72	2	242	2	243	1	1008	2	1009	1	1010	1		
*	356	9	394	733	2	768	2	801	1	1012	1	1071	1	1072	1		
*	357	12	293	10	2	95	2	103	2	165	1	242	2	454	1		
			797 2														
*	358	12	371	165	1	795	2	1006	2	1403	3	1725	2	2041	2		
*	359	10	418	165	2	795	2	1006	2	1725	2	2041	2				
*	360	16	289	10	2	103	2	165	1	242	2	794	2	795	2		
			797 2	1403 3													
*	361	14	389	89	3	109	2	165	1	242	2	794	2	795	2		
			840 2														
*	362	8	483	100	1	165	1	1006	2	1698	2	2040	2				
*	363	5	203	26	2	452	1	1402	2								
*	364	11	286	56	1	57	1	58	1	59	1	60	1	72	2		
			175 1	781 1		785 1		833 1									
*	365	9	310	56	1	57	1	58	1	64	2	175	1	781	1		
			785 1	833 1													
*	366	9	303	56	1	57	1	58	1	64	2	833	1	1001	1		
			1029 1	1030 1													
*	367	9	297	5	1	56	1	57	1	58	1	64	2	833	1		
			1024 1	1031 1													
*	368	8	319	56	1	57	1	328	2	833	1	1001	1	1029	1		
			1030 1														
*	369	8	311	5	1	56	1	57	1	328	2	833	1	1024	1		
			1031 1														
*	370	12	319	5a	1	57	1	58	1	833	1	1068	1	1069	1		
			2032 6														
*	371	6	326	56	1	57	1	833	1	1030	1	1060	2				
*	372	7	317	56	1	57	1	58	1	206	1	833	1	1061	2		
*	373	7	333	6	1	56	1	57	1	833	1	1062	3				
*	375	8	320	5	1	56	1	57	1	833	1	1064	1	1065	3		
*	377	10	217	56	1	57	1	58	1	59	1	237	2	557	1		
			716 2	833 1													
*	378	7	324	56	1	57	1	367	2	781	1	833	1	1059	1		
*	379	10	420	56	1	57	1	833	1	1056	1	1057	6				
*	380	8	325	58	1	59	1	148	2	615	1	809	1	1054	2		
*	382	10	292	58	1	59	1	148	2	615	1	809	1	864	1		
			1070 3														
*	383	10	298	58	1	59	1	148	2	615	1	809	1	1051	1		
			1052 1	1053 2													
*	384	6	270	239	3	459	1	833	1	1049	1						
*	385	11	194	59	1	72	2	459	1	471	1	833	1	1355	5		
*	386	5	340	809	1	1073	2	1074	2								
*	387	7	253	105	2	237	2	459	1	833	1	1049	1				
*	389	11	207	60	1	72	2	105	2	230	1	236	1	459	1		
			471 1	557 1		833 1											
*	390	4	272	833	1	1047	1	1048	2								
*	391	7	313	459	1	614	1	833	1	1045	3	2051	1				
*	392	8	332	459	1	614	1	833	1	851	1	1044	4				
*	393	6	272	459	1	614	1	639	1	683	2	833	1				
*	394	7	283	459	1	614	1	833	1	1043	3	2051	1				
*	395	5	344	459	1	614	1	684	2	833	1						
*	396	6	331	459	1	614	1	833	1	1024	1	1041	2				
*	397	6	365	175	1	459	1	614	1	833	1	1040	2				
*	398	9	374	175	1	459	1	614	1	833	1	838	1	909	4		
*	399	10	334	59	1	60	1	72	2	175	1	459	1	614	1		
			698 1	785 1		833 1											

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	400	6	335	459 1 614 1 686 2 833 1 1001 1
*	401	6	338	459 1 614 1 833 1 1024 1 1039 2
*	402	6	357	175 1 459 1 614 1 833 1 1038 2
*	403	6	321	459 1 614 1 833 1 1001 1 1037 2
*	404	6	324	459 1 614 1 833 1 1024 1 1036 2
*	405	6	343	175 1 459 1 614 1 833 1 1035 2
*	406	7	326	175 1 459 1 542 2 614 1 833 1 1034 1
*	407	7	338	459 1 614 1 833 1 1001 1 1029 1 1033 2
*	408	7	317	459 1 614 1 833 1 1024 1 1031 1 1033 2
*	409	7	360	175 1 367 2 459 1 614 1 785 1 833 1
*	410	8	343	64 2 175 1 459 1 614 1 698 1 785 1
			833 1	
*	411	8	333	457 2 459 1 614 1 833 1 1001 1 1029 1
			1030 1	
*	412	8	349	175 1 457 2 459 1 614 1 781 1 785 1
			833 1	
*	413	6	395	175 1 459 1 614 1 833 1 1027 2
*	414	6	366	459 1 614 1 833 1 1024 1 1025 2
*	415	6	358	175 1 459 1 614 1 833 1 1023 2
*	416	9	342	175 1 459 1 614 1 639 1 683 2 781 1
			785 1 833 1	
*	417	8	342	175 1 459 1 614 1 833 1 1022 3 2050 1
*	418	8	332	459 1 614 1 833 1 851 1 1021 4
*	419	5	360	459 1 614 1 833 1 910 2
*	420	5	372	459 1 614 1 833 1 986 2
*	421	8	395	242 2 243 1 993 2 1008 2 1010 1
*	422	15	304	72 2 242 2 243 1 1008 2 1009 1 1010 1
			1356 6	
*	423	17	295	72 2 242 2 243 1 1008 2 1009 1 1010 1
			1358 8	
*	424	19	291	72 2 242 2 243 1 1008 2 1009 1 1010 1
			1360 10	
*	425	11	390	11 2 12 2 243 1 1019 2 1304 4
*	426	12	393	11 2 12 2 1016 2 1017 2 1304 4
*	429	4	195	13 1 98 2 99 1
*	430	9	349	58 1 148 2 230 1 615 1 809 1 1075 3
*	431	5	219	26 1 33 2 982 1 1076 1
*	440	10	477	87 2 89 2 109 2 142 1 840 2
*	445	8	453	89 3 840 2 1093 2 1094 1
*	446	21	413	89 6 97 2 98 2 100 2 666 2 667 1
			840 4 1302 2	
*	447	14	503	666 2 667 1 1096 6 2044 2 2089 3
*	448	12	478	666 2 667 1 955 4 2043 2 2132 3
*	449	9	423	89 3 840 2 1098 2 1099 2
*	450	6	453	92 2 100 2 673 1 1101 1
*	451	6	483	100 2 666 2 667 1 673 1
*	452	10	453	89 3 100 2 840 2 1102 2 1103 1
*	454	10	438	89 3 100 2 840 2 1107 2 1108 1
*	455	12	438	89 3 92 2 100 2 142 1 840 2 1101 2
*	456	10	448	89 3 100 2 840 2 1109 2 1110 1
*	457	10	448	92 2 100 2 827 3 840 2 1101 1
*	458	12	473	92 2 100 2 657 3 660 1 840 1 952 2
			1101 1	
*	459	8	478	92 2 100 2 1101 1 1107 2 1108 1
*	460	8	423	92 2 100 2 673 2 1101 1
*	461	10	428	89 3 92 2 100 2 840 2 1101 1
*	462	8	453	100 2 666 2 667 1 673 2
*	463	8	448	100 2 641 1 666 2 667 1 1112 2
*	464	8	478	92 2 100 2 666 2 667 1 1101 1
*	465	4	501	100 1 666 2 667 1
*	466	7	503	100 2 666 2 667 1 1113 2
*	467	10	503	100 2 666 2 667 1 840 2 1114 3
*	468	8	478	100 2 129 2 130 1 666 2 667 1
*	469	10	503	100 2 115 1 666 2 667 1 1115 2 1116 1
			1117 1	
*	470	8	523	100 2 666 2 667 1 1118 2 1119 1
*	471	10	473	100 2 654 3 666 2 667 1 840 2
*	472	10	449	89 3 100 2 666 2 667 1 840 2
*	473	10	478	100 2 666 2 667 1 827 3 840 2
*	474	8	453	96 1 100 2 651 2 666 2 667 1

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	475	11	473	100	2	115	2	419	3	666	2	667	1	842	1
*	476	12	305	58	1	148	2	181	1	183	1	615	1	790	2
			809 1	1453 3											
*	477	14	278	58	1	148	2	181	1	183	1	615	1	790	2
			809 1	1455 5											
*	478	10	329	58	1	148	2	166	1	181	1	183	1	615	1
			790 2	809 1											
*	479	3	300	715	2	833	1								
*	480	6	538	1120	1	1121	1	1122	4						
*	481	3	368	833	1	1150	2								
*	482	4	381	820	2	833	1	1148	1						
*	483	3	374	172	2	833	1								
*	484	4	405	732	2	817	1	1124	1						
*	486	10	623	1197	2	1306	6	2139	2						
*	487	5	548	13	1	1673	2	2073	2						
*	488	10	507	1306	6	1673	2	2073	2						
*	489	10	511	1306	6	2093	2	2144	2						
*	491	6	363	328	2	615	1	788	2	809	1				
*	492	7	316	58	1	64	2	615	1	788	2	809	1		
*	494	5	353	1106	2	1133	2	1134	1						
*	495	6	343	683	2	1106	2	1134	1	1135	1				
*	496	7	303	72	2	638	1	1106	2	1134	1	1135	1		
*	497	7	303	1043	3	1106	2	1134	1	1136	1				
*	498	8	286	60	1	72	2	638	1	1106	2	1134	1	1135	1
*	499	6	345	13	1	1106	2	1134	1	1137	2				
*	500	8	303	229	3	1106	2	1134	1	1135	1	1138	1		
*	501	9	283	72	2	638	1	1106	2	1134	1	1135	1	1352	2
*	502	5	378	1106	2	1134	1	1137	2						
*	503	5	403	1106	2	1134	1	1139	2						
*	504	6	303	13	1	1106	2	1133	2	1134	1				
*	505	7	281	13	1	683	2	1106	2	1134	1	1135	1		
*	506	10	257	13	1	72	2	638	1	1106	2	1134	1	1135	1
			1352 2												
*	507	12	298	13	1	768	2	1106	2	1134	1	1141	1	1142	1
			1454 4												
*	508	12	239	223	3	874	2	1143	6	1144	1				
*	509	16	208	223	6	874	3	1143	6	1144	1				
*	510	8	298	874	1	1143	6	1144	1						
*	511	5	326	107	1	108	1	768	2	833	1				
*	512	12	260	10	2	46	2	99	2	100	1	165	1	651	2
			797 2												
*	514	10	233	10	2	43	2	44	1	99	2	165	1	797	2
*	516	10	305	66	1	113	1	114	1	768	2	833	1	1454	4
*	517	15	293	72	2	117	2	124	1	1008	2	1009	1	1010	1
			1356 6												
*	518	15	307	72	2	125	1	126	2	1008	2	1009	1	1010	1
			1356 6												
*	519	16	356	733	2	790	2	801	2	1012	1	1071	1	1072	1
			1457 7												
*	520	13	374	733	2	768	2	801	2	1012	1	1071	1	1072	1
			1454 4												
*	521	12	260	25	6	127	2	165	1	795	2	874	1		
*	523	4	258	48	2	132	1	134	1						
*	524	4	258	135	1	136	1	164	2						
*	525	7	258	55	1	138	1	140	1	166	1	768	2	773	1
*	527	16	253	10	4	141	2	144	2	165	2	797	4	816	2
*	531	6	203	49	4	50	1	51	1						
*	533	5	298	55	1	88	1	138	1	179	2				
*	534	4	258	48	2	55	1	138	1						
*	534	2	155	643	1	751	1								
*	535	3	310	84	2	1124	1								
*	536	3	368	85	2	833	1								
*	538	10	216	10	2	99	3	165	1	426	2	797	2		
*	539	8	215	10	2	99	2	165	1	426	1	797	2		
*	540	9	215	10	2	99	2	426	1	797	2	1402	2		
*	541	10	242	10	2	46	2	99	2	165	1	539	1	797	2
*	542	4	303	157	1	165	1	795	2						
*	544	10	293	10	2	103	2	165	1	242	2	243	1	797	2
*	549	13	407	795	2	1006	2	1402	2	1403	3	1725	2	2041	2
*	550	11	422	165	1	795	2	1006	2	1402	2	1725	2	2041	2

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	551	16	376	795	2	1006	2	1403	3	1405	5	1725	2	2041	2
*	552	14	398	165	1	795	2	1006	2	1405	5	1725	2	2041	2
*	554	8	441	165	1	454	1	1006	2	1725	2	1727	2		
*	555	9	475	100	1	1006	2	1402	2	1698	2	2040	2		
*	556	8	447	165	1	795	2	1156	1	1753	2	2041	2		
*	558	7	203	162	1	163	2	179	4						
*	559	17	293	10	2	103	2	165	1	733	2	768	2	797	2
			1012 1	1072 1		1454 4									
*	560	6	190	263	2	421	2	874	1	884	1				
*	566	10	393	795	2	1156	1	1403	3	1753	2	2041	2		
*	569	2	345	169	2										
*	570	8	439	109	2	110	1	827	3	840	2				
*	571	10	446	109	2	110	1	171	1	173	4	840	2		
*	573	6	315	180	1	185	2	459	1	614	1	833	1		
*	574	7	300	180	1	459	1	614	1	768	2	833	1	1142	1
*	575	8	293	166	1	180	1	459	1	614	1	768	2	833	1
			1142 1												
*	576	9	264	180	1	459	1	614	1	768	2	833	1	1142	1
			1452 2												
*	577	11	263	180	1	459	1	614	1	768	2	833	1	1142	1
			1454 4												
*	578	13	255	180	1	459	1	614	1	768	2	833	1	1142	1
			1456 6												
*	579	5	327	187	2	459	1	614	1	833	1				
*	580	6	323	189	1	191	3	459	1	833	1				
*	581	7	283	56	1	57	1	190	1	191	3	833	1		
*	582	5	404	193	1	328	2	817	1	1124	1				
*	583	4	309	107	1	194	2	833	1						
*	585	18	283	10	4	11	2	103	2	197	2	445	2	797	2
			1402 4												
*	586	17	288	10	4	11	2	103	2	165	1	197	2	445	2
			797 2	1402 2											
*	587	16	301	10	4	11	2	103	2	197	2	445	2	797	2
			1402 2												
*	588	18	268	10	2	11	2	98	2	103	2	197	2	445	2
			1304 4	1402 2											
*	589	17	296	10	2	11	2	98	2	103	2	197	2	445	2
			1303 3	1402 2											
*	590	16	296	10	2	11	2	98	2	103	2	197	2	445	2
			1302 2	1402 2											
*	591	18	261	10	2	11	2	12	2	103	2	445	2	797	2
			1304 4	1402 2											
*	592	17	279	10	2	11	2	12	2	103	2	165	1	445	2
			797 2	1304 4											
*	593	16	272	10	2	11	2	12	2	103	2	445	2	797	2
			1304 4												
*	596	3	457	138	1	195	2								
*	599	14	299	103	2	165	1	203	2	242	2	452	1	794	2
			795 2	797 2											
	600	12	450	100	1	1006	2	1405	5	1698	2	2040	2		
	601	22	238	4	6	87	2	103	2	142	1	297	6	946	2
			874 1	1015 2											
	602	9	304	10	2	165	1	205	2	207	2	797	2		
	605	11	263	25	6	127	2	795	2	874	1				
*	60	7	426	242	2	243	1	1008	2	1154	2				
*	608	6	411	242	2	243	1	801	2	1071	1				
*	613	3	268	403	2	833	1								
*	614	3	171	120	1	122	2								
*	618	4	233	139	2	849	2								
*	622	4	200	304	2	891	2								
*	623	4	215	307	2	849	2								
*	625	4	173	13	1	121	1	123	2						
*	631	6	302	74	1	229	3	833	1	2031	1				
*	635	9	320	59	1	60	1	72	2	274	2	349	1	833	1
			856 1												
*	636	7	353	64	2	274	2	349	1	833	1	856	1		
*	639	6	359	274	2	311	2	833	1	856	1				
*	640	10	322	59	1	72	2	274	2	349	1	833	1	856	1
			1352 2												
*	641	8	327	59	1	72	2	274	2	349	1	833	1	856	1

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Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	642	7	347	66 1 72 2 303 1 638 1 833 1 980 1
*	648	9	375	66 1 298 1 400 1 693 4 837 1 980 1
*	650	7	463	272 1 296 1 373 1 833 1 1157 3
*	651	7	398	66 1 298 1 833 1 980 1 1157 3
*	660	5	389	66 1 300 2 833 1 980 1
*	665	9	339	66 1 72 2 303 1 638 1 833 1 980 1
			1352 2	
*	670	6	462	272 1 299 1 716 2 373 1 833 1
*	674	11	323	66 1 72 2 303 1 638 1 833 1 980 1
			1354 4	
*	675	8	343	60 1 66 1 72 2 303 1 638 1 833 1
			980 1	
*	683	6	375	66 1 303 1 683 2 833 1 980 1
*	686	7	325	11 1 12 1 14 1 15 1 1303 3
*	687	14	323	11 2 12 2 14 2 15 2 1302 2 1304 4
*	691	9	349	58 1 59 1 60 1 66 1 72 2 175 1
			833 1 980 1	
*	694	7	367	58 1 64 2 66 1 175 1 833 1 980 1
*	695	11	339	58 1 59 1 66 1 72 2 175 1 833 1
			980 1 1353 3	
*	698	8	365	58 1 59 1 66 1 72 2 175 1 833 1
			980 1	
*	701	8	390	56 1 105 2 394 1 395 2 396 1 833 1
*	702	8	401	56 1 394 1 399 1 696 4 833 1
*	703	9	433	148 2 399 1 696 4 809 1 844 1
*	707	7	258	13 1 382 2 830 2 841 2
*	708	7	358	56 1 394 1 396 1 405 3 833 1
*	709	5	268	382 2 809 1 841 2
*	710	9	380	56 1 72 2 394 1 395 2 396 1 557 1
			833 1	
*	711	12	339	56 1 72 2 394 1 395 2 396 1 557 1
			833 1 1353 3	
*	712	14	313	56 1 72 2 394 1 395 2 396 1 557 1
			833 1 1355 5	
*	713	13	325	56 1 72 2 394 1 395 2 396 1 557 1
			833 1 1354 4	
*	715	10	344	56 1 60 1 72 2 394 1 395 2 396 1
			557 1 833 1	
*	717	4	418	56 1 408 2 833 1
*	721	4	379	56 1 410 2 833 1
*	726	4	226	372 2 375 1 377 1
*	730	13	211	59 1 72 2 459 1 471 1 833 1 1357 7
*	733	9	339	58 1 59 1 60 1 72 2 272 1 373 1
			833 1 1001 1	
*	735	7	391	58 1 64 2 272 1 373 1 833 1 1001 1
*	736	11	318	58 1 59 1 72 2 272 1 373 1 833 1
			1001 1 1353 3	
*	740	10	365	58 1 59 1 72 2 272 1 373 1 833 1
			1001 1 1352 2	
*	741	8	381	58 1 59 1 72 2 272 1 373 1 833 1
			1001 1	
*	742	4	163	13 1 120 1 122 2
*	743	10	293	103 2 203 2 242 2 243 1 452 1 797 2
*	745	6	393	125 1 126 2 801 2 1071 1
*	746	16	280	10 2 59 1 72 2 103 2 165 1 430 2
			481 1 490 1 797 2 1352 2	
*	748	16	233	10 2 59 1 72 2 103 2 165 1 422 1
			483 1 733 2 797 2 1352 2	
*	750	3	215	26 2 452 1
*	751	12	269	80 1 592 2 594 1 768 2 1406 6
*	752	10	245	592 2 595 2 1406 6
*	753	16	254	80 1 592 2 594 1 768 2 1406 6 1454 4
*	754	14	249	80 1 592 2 594 1 768 2 1404 4 1454 4
*	755	10	258	80 1 592 2 594 1 768 2 1404 4
*	756	4	302	592 2 595 2
*	757	23	257	26 2 433 2 528 4 529 4 592 2 1403 3
			1406 6	
*	758	9	190	162 1 163 2 181 2 772 4
*	759	5	254	162 1 439 4

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs												
*	760	5	208	163	1	179	2	441	2							
*	761	7	228	162	1	442	4	443	2							
*	762	19	223	162	1	163	2	181	2	183	2	768	4	1454	8	
*	765	9	234	10	2	103	2	110	1	797	2	1402	2			
*	767	8	220	191	3	548	1	572	1	584	1	645	1	707	1	
*	768	4	248	436	2	645	1	707	1							
*	770	6	238	26	1	507	2	981	1	982	1	1076	1			
*	771	7	251	26	1	28	1	509	2	981	1	982	1	1076	1	
*	788	9	340	59	1	60	1	63	1	72	2	373	1	420	1	
			631 1	833 1												
*	793	10	320	59	1	63	1	72	2	373	1	420	1	631	1	
			833 1	1352 2												
*	796	11	448	100	1	1006	2	1404	4	1698	2	2040	2			
*	798	8	488	96	1	165	1	1006	2	1697	2	2040	2			
*	799	8	245	460	6	461	1	874	1							
*	800	4	248	462	3	874	1									
*	803	12	190	223	6	462	3	874	3							
*	804	13	198	223	6	734	2	746	2	874	3					
*	806	25	252	10	2	421	4	467	4	468	2	469	2	874	1	
			884 2	1408 8												
*	807	23	235	10	2	421	4	467	4	468	2	469	2	874	1	
			884 2	1406 6												
*	808	21	239	10	2	421	4	467	4	468	2	469	2	874	1	
			884 2	1404 4												
*	809	19	238	10	2	421	4	467	4	468	2	469	2	874	1	
			884 2	1402 2												
*	810	17	236	10	2	421	4	467	4	468	2	469	2	874	1	
			884 2													
*	811	16	225	421	4	467	4	468	2	469	2	494	1	874	1	
			884 2													
*	812	7	250	56	1	57	1	58	1	181	1	470	2	833	1	
*	825	9	276	452	1	525	2	592	2	595	4					
*	826	9	275	526	2	592	2	595	4	643	1					
*	827	14	270	592	4	595	4	1406	6							
*	828	17	266	26	2	433	2	528	4	529	4	592	2	1403	3	
*	829	16	277	59	1	72	2	103	2	203	2	422	1	452	1	
			483 1	733 2		797 2		1352 2								
*	830	8	522	165	1	667	1	1006	2	1703	2	2040	2			
*	832	7	241	26	1	28	1	768	2	981	1	982	1	1076	1	
*	833	7	231	26	1	28	1	29	2	981	1	982	1	1076	1	
*	834	7	225	26	1	28	1	609	2	981	1	982	1	1076	1	
*	835	6	221	26	1	45	2	981	1	982	1	1076	1			
*	837	4	146	223	3	874	1									
*	841	4	180	266	3	874	1									
*	842	7	179	64	4	162	1	163	2							
*	843	11	185	59	1	63	1	72	2	548	1	572	1	645	1	
			707 1	1353 3												
*	845	24	183	223	12	710	6	874	5	965	1					
*	846	9	189	59	1	60	1	63	1	72	2	548	1	572	1	
			645 1	707 1												
*	847	7	195	63	1	548	1	549	2	572	1	645	1	707	1	
*	848	5	187	162	1	636	4									
*	849	13	197	98	2	99	2	102	2	426	1	538	2	1302	4	
*	850	11	197	98	2	99	1	102	2	538	2	1302	4			
*	851	14	187	102	2	538	2	545	2	1308	8					
*	852	20	188	25	6	223	9	874	4	1151	1					
*	853	8	199	102	2	538	2	1304	4							
*	854	7	201	102	2	538	2	1303	3							
*	855	20	191	223	9	710	6	874	4	965	1					
*	856	6	203	13	1	468	2	588	3							
*	857	7	198	60	1	72	2	2355	1	572	1	645	1	707	1	
*	858	13	193	102	2	538	2	545	1	1308	8					
*	859	9	201	72	2	2355	1	572	1	645	1	707	1	1353	3	
*	860	12	198	102	2	538	2	1308	8							
*	861	26	198	24	2	100	1	223	12	710	6	874	5			
*	862	3	204	637	3											
*	863	12	200	223	6	710	6	874	2	965	1					
*	864	6	206	61	2	548	1	572	1	645	1	707	1			
*	865	16	201	223	6	710	6	874	3	965	1					
*	866	7	207	63	1	64	2	548	1	572	1	645	1	707	1	

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	867	7	213	63	1	546	1	547	1	548	1	549	2	551	1
*	868	15	203	103	2	445	2	561	2	563	2	841	4	846	2
			847 1												
*	870	9	214	98	2	99	2	102	2	426	1	538	2		
*	871	5	204	102	1	184	2	546	1	630	1				
*	872	9	210	431	2	630	2	1305	5						
*	873	5	218	99	1	431	2	645	2						
*	874	5	218	546	1	547	1	551	1	554	2				
*	875	2	218	295	1	543	1								
*	876	12	221	10	2	13	1	14	2	103	2	165	1	178	2
			797 2												
*	877	13	221	10	2	13	1	14	2	103	2	178	2	797	2
			1402 2												
*	878	5	223	98	1	435	2	630	1	707	1				
*	879	5	254	572	1	573	2	645	1	707	1				
*	880	5	246	572	1	575	2	645	1	707	1				
*	881	8	271	572	1	576	1	581	4	645	1	707	1		
*	882	23	236	98	6	99	2	103	2	181	1	183	1	445	2
			561 2	574 1		586 1		790 2		1453 3					
*	883	26	195	98	8	99	3	103	2	181	1	183	1	445	2
			561 2	574 1		586 1		790 2		1453 3					
*	884	20	283	98	4	99	1	103	2	181	1	183	1	445	2
			561 2	574 1		586 1		790 2		1453 3					
*	890	8	298	13	1	87	2	98	2	103	2	142	1		
*	891	10	273	87	2	98	2	103	2	142	1	1303	3		
*	892	9	280	87	2	98	2	103	2	142	1	1302	2		
*	893	10	265	98	4	99	1	103	2	590	2	591	1		
*	894	6	216	14	1	98	1	103	1	178	1	1302	2		
*	895	4	245	14	1	98	1	103	1	178	1				
*	896	7	202	14	1	98	1	103	1	178	1	1303	3		
*	897	8	228	14	1	98	1	103	1	178	1	1304	4		
*	898	16	251	14	1	98	1	103	1	178	1	1312	12		
*	899	9	235	14	1	98	1	103	1	178	1	1305	5		
*	900	13	248	14	1	98	1	103	1	178	1	1309	9		
*	901	9	258	98	2	103	2	599	2	601	1	1302	2		
*	902	8	262	13	1	98	2	103	2	599	2	601	1		
*	903	12	266	87	2	98	2	103	2	142	1	1305	5		
*	904	16	248	10	2	103	2	107	1	108	1	178	2	291	2
			768 2	797 2		1402 2									
*	905	15	248	10	2	103	2	107	1	108	1	165	1	178	2
			291 2	768 2		797 2									
*	906	8	259	14	2	98	2	103	2	178	2				
*	907	22	221	4	6	103	2	242	2	243	1	297	6	846	2
			874 1	1015 2											
*	908	13	218	10	2	103	2	165	1	596	2	597	2	797	2
			1402 2												
*	909	16	235	10	2	102	2	103	2	178	2	295	2	593	2
			797 2	1402 2											
*	910	15	233	10	2	102	2	103	2	165	1	178	2	295	2
			593 2	797 2											
*	911	3	245	531 2		535 1									
*	914	7	220	98	2	99	1	102	2	538	2				
*	915	9	233	98	2	99	1	102	2	538	2	545	2		
*	916	4	228	13	1	102	2	295	1						
*	917	4	226	184	2	546	1	551	1						
*	918	6	223	4	3	295	1	555	2						
*	919	4	246	102	2	538	2								
*	920	6	249	102	2	538	2	545	2						
*	921	5	286	538	2	539	1	559	2						
*	922	7	266	538	2	539	1	545	2	559	2				
*	923	2	211	578	1	579	1								
*	924	7	213	295	1	382	2	555	2	841	2				
*	925	6	282	14	1	102	1	424	1	556	1	1302	2		
*	926	13	231	4	3	103	2	445	2	561	2	563	2	846	2
*	927	17	267	11	2	12	2	98	4	99	1	103	2	445	2
			1304 4												
*	928	20	250	11	2	12	2	98	6	99	2	103	2	445	2
			1304 4												
*	929	8	256	710	6	874	1	965	1						

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	930	6	120	521	1	874	1	924	4						
*	931	12	263	226	3	710	6	874	2	965	1				
*	932	22	211	24	2	100	1	223	9	710	6	874	4		
*	933	18	226	24	2	100	1	223	6	710	6	874	3		
*	934	20	221	223	9	874	4	1151	1	1152	6				
*	935	9	265	162	1	1062	6	2212	2						
*	936	7	256	162	1	625	2	634	4						
*	939	5	267	162	1	629	4								
*	940	7	259	644	1	647	6								
*	941	3	240	12	2	519	1								
*	942	4	173	588	3	589	1								
*	943	4	191	508	3	602	1								
*	944	9	267	13	1	468	2	603	2	605	1	606	3		
*	945	9	325	13	1	468	2	605	1	606	3	607	2		
*	946	8	223	608	3	610	1	612	4						
*	947	19	269	58	2	59	2	72	4	615	1	616	1	639	1
			807 1	809 1		1353 6									
*	948	6	270	459	1	614	1	639	1	653	2	833	1		
*	949	8	263	60	1	153	2	459	1	614	1	638	1	639	1
			833 1												
*	950	6	224	59	1	72	2	459	1	471	1	833	1		
*	951	12	262	74	1	235	1	748	2	833	1	1357	7		
*	952	4	255	492	3	809	1								
*	953	9	246	385	4	630	2	1303	3						
*	954	10	245	385	4	630	2	1304	4						
*	955	12	233	385	4	630	2	1306	6						
*	956	14	231	385	4	630	2	1308	8						
*	957	9	220	98	2	103	2	110	1	1304	4				
*	958	11	240	14	1	103	1	178	1	655	1	656	1	669	1
			1305 5												
*	959	14	231	14	1	98	1	103	1	178	1	655	1	656	2
			1302 2	1305 5											
*	960	12	237	14	1	103	1	178	1	658	2	674	1	692	1
			1305 5												
*	961	14	231	14	1	704	1	706	2	1106	1	1309	9		
*	962	15	225	14	1	699	1	700	2	704	1	1106	1	1309	9
*	963	15	241	14	1	699	1	704	1	709	2	1106	1	1309	9
*	964	15	259	26	2	433	2	477	2	529	4	711	1	1404	4
*	965	14	260	26	2	433	2	529	4	724	2	1404	4		
*	966	9	255	80	1	256	2	592	2	594	1	773	1	1402	2
*	967	16	257	26	2	80	1	433	2	529	4	711	1	768	2
			1404 4												
*	968	11	263	26	1	433	1	477	2	529	2	592	1	725	1
			1403 3												
*	970	14	274	58	1	59	1	148	2	290	2	557	1	615	1
			619 4	809 1		933 1									
*	972	9	238	56	1	57	1	58	1	59	1	743	2	833	1
			1352 2												
*	973	10	250	56	1	57	1	58	1	59	3	63	1	743	2
			833 1												
*	975	8	206	675	1	676	6	874	1						
*	976	14	245	58	2	59	2	60	2	72	4	691	2	1162	1
			1163 1												
*	977	5	204	98	2	99	2	426	1						
*	978	7	251	72	2	679	1	1164	1	1165	1	1352	2		
*	979	8	246	72	2	679	1	1164	1	1165	1	1353	3		
*	980	10	225	72	2	679	1	1164	1	1165	1	1355	5		
*	981	12	212	72	2	679	1	1164	1	1165	1	1357	7		
*	982	7	254	59	1	60	1	72	2	681	1	1165	1	1166	1
*	983	7	270	58	1	59	1	72	2	688	1	1165	1	1167	1
*	984	8	245	58	1	59	1	60	1	72	2	688	1	1165	1
			1167 1												
*	985	9	237	58	1	59	1	72	2	688	1	1165	1	1167	1
			1352 2												
*	986	10	244	58	1	59	1	72	2	688	1	1165	1	1167	1
			1353 3												
*	987	11	220	58	1	59	1	72	2	688	1	1165	1	1167	1
			1354 4												
*	988	12	210	58	1	59	1	72	2	688	1	1165	1	1167	1
			1355 5												

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	989	14	218	58 1 59 1 72 2 688 1 1165 1 1167 1
			1357 7	
*	990	16	218	58 1 59 1 72 2 688 1 1165 1 1167 1
			1359 9	
*	991	7	270	72 2 638 1 639 1 726 1 1165 1 1166 1
*	992	9	213	72 2 638 1 639 1 726 1 1165 1 1166 1
			1352 2	
*	993	11	220	72 2 638 1 639 1 726 1 1165 1 1166 1
			1354 4	
*	994	13	222	72 2 638 1 639 1 726 1 1165 1 1166 1
			1356 6	
*	995	11	228	58 1 59 3 60 1 63 1 72 2 688 1
			1165 1	1167 1
*	996	8	263	58 1 72 2 638 1 639 1 731 1 1164 1
			1165 1	
*	997	10	235	58 1 72 2 638 1 639 1 731 1 1164 1
			1165 1	1352 2
*	998	12	233	58 1 72 2 638 1 639 1 731 1 1164 1
			1165 1	1354 4
*	999	14	213	58 1 72 2 638 1 639 1 731 1 1164 1
			1165 1	1356 6
*	1000	16	243	58 1 72 2 638 1 639 1 731 1 1164 1
			1165 1	1358 8
*	1001	8	263	58 1 59 2 61 2 688 1 1165 1 1167 1
*	1002	9	253	58 1 59 2 63 1 64 2 688 1 1165 1
			1167 1	
*	1003	12	229	58 1 59 4 63 2 64 2 688 1 1165 1
			1167 1	
*	1004	10	228	58 2 64 4 689 1 690 1 691 2
*	1005	12	263	58 2 59 2 72 4 689 1 690 1 691 2
*	1006	16	228	58 2 59 2 72 4 691 2 1162 1 1163 1
			1352 4	
*	1007	18	198	58 2 59 2 72 4 691 2 1162 1 1163 1
			1353 6	
*	1008	20	188	58 2 59 2 72 4 689 1 690 1 691 2
			1354 8	
*	1009	22	180	58 2 59 2 72 4 691 2 1162 1 1163 1
			1355 10	
*	1010	24	175	58 2 59 2 72 4 691 2 1162 1 1163 1
			1356 12	
*	1011	26	193	58 2 59 2 72 4 691 2 1162 1 1163 1
			1357 14	
*	1012	16	243	58 2 59 2 229 6 557 2 691 2 1168 1
			1169 1	
*	1013	22	188	58 2 60 2 72 4 105 4 230 2 236 2
			557 2	691 2 1168 1 1169 1
*	1014	14	253	58 2 59 4 61 4 691 2 1168 1 1169 1
*	1015	16	233	58 2 59 4 63 2 64 4 691 2 1168 1
			1169 1	
*	1016	20	188	58 2 59 6 60 2 63 2 72 4 691 2
			1168 1	1169 1
*	1017	24	188	58 2 59 6 63 2 72 4 691 2 1168 1
			1169 1	1353 6
*	1018	20	195	58 2 59 8 61 4 63 2 691 2 1168 1
			1169 1	
*	1019	22	201	58 2 59 8 63 4 64 4 691 2 1168 1
			1169 1	
*	1020	26	203	58 2 59 10 60 2 63 4 72 4 691 2
			1168 1	1169 1
*	1021	26	216	58 2 59 12 61 4 63 4 691 2 1168 1
			1169 1	
*	1022	28	202	58 2 59 12 63 6 64 4 691 2 1168 1
			1169 1	
*	1023	32	187	58 2 59 14 60 2 63 6 72 4 691 2
			1168 1	1169 1
*	1029	15	258	87 2 98 2 103 2 142 1 1308 8
*	1030	10	293	4 3 103 2 846 2 1904 1 1905 2
*	1031	7	281	98 2 103 2 1904 1 1905 2
*	1033	9	280	98 2 103 2 242 2 243 1 1302 2
*	1038	12	323	98 2 103 2 733 2 1304 4 1906 2

Table 5 (continued)

PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
* 1040	2	319	454 1 1071 1
* 1041	21	249	10 2 26 4 103 2 242 2 243 1 452 2
		797 2	1402 6
* 1042	6	243	13 1 468 2 759 3
* 1043	6	258	4 3 13 1 830 2
* 1045	11	236	72 2 74 1 235 1 833 1 1356 6
* 1046	14	241	72 2 74 1 235 1 833 1 1359 9
* 1047	1	167	770 1
* 1048	18	201	14 2 98 2 103 2 178 2 1304 4 1306 6
* 1049	18	194	14 2 103 2 178 2 382 2 841 2 846 2
		1306 6	
* 1050	18	202	14 2 178 2 435 4 630 2 1000 2 1306 6
* 1051	7	239	162 1 443 2 621 4
* 1052	14	213	56 1 57 1 58 1 59 1 72 2 833 1
		1357 7	
* 1053	9	244	162 1 542 4 625 2 632 2
* 1054	7	243	162 1 443 2 793 4
* 1055	12	263	56 1 57 1 58 1 59 1 833 1 864 1
		1051 2	1052 1 1070 3
* 1056	14	258	56 1 57 1 58 1 59 1 693 4 694 1
		833 1	864 1 1051 2 1052 1
* 1057	18	251	60 3 72 6 148 2 615 1 780 1 802 1
		809 1	814 3
* 1058	17	246	56 1 57 1 60 3 72 6 780 1 802 1
		814 3	833 1
* 1059	11	265	58 1 59 3 63 1 72 2 148 2 615 1
		809 1	
* 1060	9	257	693 4 796 1 818 1 819 2 821 1
* 1061	11	262	60 1 72 2 693 4 796 1 818 1 821 1
		985 1	
* 1062	3	258	824 3
* 1063	10	263	72 2 693 4 796 1 818 1 821 1 985 1
* 1064	9	271	72 4 818 2 822 1 985 2
* 1065	11	207	162 1 163 2 181 2 183 2 768 4
* 1066	13	210	162 1 163 2 166 2 181 2 183 2 790 4
* 1067	9	244	63 1 230 1 548 1 572 1 645 1 707 1
		828 3	
* 1068	10	231	59 1 63 2 548 1 572 1 645 1 707 1
		743 2	826 1
* 1069	8	235	59 1 63 1 548 1 572 1 645 1 707 1
		743 2	
* 1070	7	245	63 1 548 1 572 1 645 1 707 1 870 2
* 1071	6	250	235 1 572 1 645 1 707 1 743 2
* 1073	12	248	26 1 28 1 768 2 981 1 982 1 1076 1
		1455 5	
* 1074	15	215	98 2 103 2 181 1 255 2 445 2 561 2
		574 1	586 1 1302 2
* 1075	17	193	98 2 103 2 166 1 181 1 183 1 445 2
		561 2	574 1 586 1 790 2 1302 2
* 1076	19	177	98 2 103 2 181 1 183 1 445 2 561 2
		574 1	586 1 790 2 1302 2 1453 3
* 1077	21	163	98 2 103 2 181 1 183 1 445 2 561 2
		574 1	586 1 790 2 1302 2 1455 5
* 1078	20	231	10 4 43 2 44 1 46 2 99 4 165 2
		539 1	797 4
* 1079	15	215	10 2 14 2 26 2 103 2 178 2 452 1
		797 2	1302 2
* 1080	49	211	10 2 11 2 12 2 26 14 103 2 445 2
		452 7	797 2 1304 4 1402 12
* 1081	43	223	10 2 11 2 12 2 26 14 98 2 99 1
		103 2	445 2 452 7 797 2 1402 12
* 1082	50	239	10 4 11 2 26 16 103 2 197 2 445 2
		452 8	797 2 1402 12
* 1084	44	245	10 2 26 14 103 2 445 2 452 7 797 2
		1153 2	1161 1 1402 12
* 1085	15	198	10 2 14 2 103 2 165 1 178 2 797 2
		1304 4	
* 1086	16	216	10 2 14 2 103 2 165 1 178 2 797 2
		1305 5	

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	1087	21	263	26	4	452	2	791	2	1050	2	1063	2	1403	3
			1406 6												
*	1088	19	253	26	6	452	4	791	2	1050	2	1111	2	1403	3
*	1089	22	248	26	7	452	4	791	2	1050	2	1063	1	1111	1
			1402 2	1403 3											
*	1090	11	221	10	2	165	1	179	2	797	2	975	2	979	1
			988 1												
*	1091	12	221	10	2	165	1	181	1	772	2	797	2	975	2
			979 1	988 1											
*	1092	13	224	10	2	165	1	181	1	183	1	768	2	797	2
			975 2	979 1	988 1										
*	1093	14	221	10	2	165	1	166	1	181	1	183	1	768	2
			797 2	975 2	979 1	988 1									
*	1094	14	221	10	2	165	1	181	1	183	1	256	2	773	1
			797 2	975 2	979 1	988 1									
*	1095	9	247	10	2	165	1	797	2	975	2	992	2		
*	1096	11	248	10	2	165	1	768	2	797	2	975	2	989	1
			990 1												
*	1097	9	254	10	2	165	1	797	2	975	2	991	2		
*	1098	11	239	10	2	165	1	797	2	975	2	994	1	1046	3
*	1099	21	239	10	2	421	4	467	4	468	2	469	2	493	2
			494 2	874 1	884 2										
*	1100	33	220	10	2	263	4	421	8	467	4	468	2	469	2
			874 3	884 4	1404 4										
*	1101	16	232	421	4	467	4	468	2	871	2	874	1	884	2
			890 1												
*	1102	12	251	131	2	165	1	710	6	874	1	997	2		
*	1103	12	232	421	4	675	1	874	1	884	2	888	4		
*	1104	12	291	421	4	874	1	884	2	969	4	1144	1		
*	1105	24	260	263	4	421	8	874	3	884	4	969	4	1144	1
*	1106	20	224	10	2	26	2	421	4	452	1	467	4	468	2
			469 2	874 1	884 2										
*	1107	10	203	162	1	163	2	166	1	179	2	181	1	183	1
			790 2												
*	1108	16	239	110	1	905	1	915	3	925	2	929	3	951	4
			1008 2												
*	1109	8	236	10	2	103	2	110	1	165	1	797	2		
*	1110	8	227	98	2	103	2	110	1	1303	3				
*	1111	7	231	98	2	103	2	110	1	1302	2				
*	1112	14	228	98	8	99	3	103	2	110	1				
*	1113	11	230	98	6	99	2	103	2	110	1				
*	1114	8	246	98	4	99	1	103	2	110	1				
*	1115	14	237	58	2	59	2	60	2	72	4	689	1	690	1
			691 2												
*	1116	20	188	58	2	59	2	72	4	691	2	1162	1	1163	1
			1354 8												
*	1117	10	359	60	1	72	2	242	2	243	1	1008	2	1009	1
			1010 1												
*	1118	12	335	72	2	242	2	243	1	1008	2	1009	1	1010	1
			1353 3												
*	1119	14	314	72	2	242	2	243	1	1008	2	1009	1	1010	1
			1355 5												
*	1120	8	276	693	4	796	1	821	1	1170	2				
*	1121	9	425	272	1	296	1	373	1	400	1	693	4	833	1
*	1122	6	463	316	2	833	1	904	1	1171	1	1175	1		
*	1123	9	397	60	1	72	2	393	1	833	1	904	1	985	1
			1171 1	1175 1											
*	1124	6	394	833	1	860	1	1172	2	1173	2				
*	1125	7	386	64	2	833	1	860	1	1172	2	1174	1		
*	1126	8	367	59	1	72	2	833	1	860	1	1172	2	1174	1
*	1127	9	355	59	1	60	1	72	2	833	1	860	1	1172	2
			1174 1												
*	1128	10	334	59	1	72	2	833	1	860	1	1172	2	1174	1
			1352 2												
*	1129	6	391	328	2	833	1	904	1	1024	1	1171	1		
*	1130	9	351	58	1	59	1	60	1	72	2	833	1	904	1
			1024 1	1171 1											
*	1131	7	438	272	1	299	1	373	1	393	1	819	2	833	1
*	1132	8	420	72	2	272	1	299	1	373	1	393	1	833	1
			985 1												

Table 5 (continued)

PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
* 1133	9	381	60	1	72	2	272	1	299	1	373	1	393	1
		833 1	985 1											
* 1139	10	283	72	2	638	1	1106	2	1134	1	1135	1	1353	3
* 1140	11	283	72	2	638	1	1106	2	1134	1	1135	1	1354	4
* 1141	15	283	72	2	638	1	1106	2	1134	1	1135	1	1358	8
* 1142	21	283	72	2	638	1	1106	2	1134	1	1135	1	1364	14
* 1143	8	373	72	2	557	1	2115	2	2116	2	2205	1		
* 1144	9	358	60	1	72	2	557	1	2115	2	2116	2	2205	1
* 1145	10	333	72	2	557	1	1352	2	2115	2	2116	2	2205	1
* 1146	11	327	72	2	557	1	1353	3	2115	2	2116	2	2205	1
* 1147	13	293	72	2	557	1	1355	5	2115	2	2116	2	2205	1
* 1148	17	263	72	2	557	1	1359	9	2115	2	2116	2	2205	1
* 1149	15	241	59	2	60	2	72	4	162	1	625	2	698	2
		1059 2												
* 1150	11	270	64	4	162	1	625	2	698	2	1059	2		
* 1151	9	264	162	1	367	4	625	2	1059	2				
* 1152	11	229	71	2	72	4	162	1	625	2	632	2		
* 1154	7	265	162	1	625	2	628	4						
* 1155	6	669	100	1	1180	3	1181	2						
* 1156	32	238	26	8	36	2	39	4	433	2	452	4	791	2
		1050 2	1063 2		1402 6									
* 1157	14	272	26	3	165	1	452	2	791	2	1050	2	1063	1
		1111 1	1402 2											
* 1158	20	349	14	2	15	2	1184	2	1185	2	1187	2	1304	4
		1306 6												
* 1159	18	340	14	2	15	2	1184	2	1185	2	1187	2	1304	8
* 1160	18	348	14	2	15	2	1184	2	1185	2	1187	2	1302	2
		1306 6												
* 1161	22	356	14	2	15	2	1184	2	1185	2	1187	2	1306	12
* 1162	15	383	14	2	15	2	1187	2	1190	2	1306	6	2169	1
* 1163	7	562	100	2	673	1	1194	2	2060	2				
* 1164	7	553	641	2	642	1	1196	2	2060	2				
* 1165	5	643	100	1	1194	2	2060	2						
* 1166	4	541	1200	1	1201	2	1202	1						
* 1167	4	513	100	1	1102	2	1103	1						
* 1168	4	653	730	1	1103	1	1203	2						
* 1169	14	425	89	3	97	2	840	2	1204	2	1205	2	1207	1
		1208 2												
* 1170	17	347	89	3	97	2	840	2	1204	2	1211	2	1213	2
		1304 4												
* 1171	13	385	89	3	97	2	840	2	1204	2	1215	2	2179	2
* 1172	16	417	89	3	97	2	840	2	1204	2	1211	1	1218	1
		1220 1	2206 4											
* 1173	20	349	4	3	89	3	97	2	431	2	627	1	830	1
		840 2	1204 2		1211 2		1213 1		2180 1					
* 1174	5	561	100	1	1225	2	2143	2						
* 1175	11	337	699	2	700	4	1106	2	1226	1	1227	2		
* 1176	10	461	243	1	1019	2	1226	1	1228	2	1229	4		
* 1177	8	468	1207	1	1226	1	1228	2	1230	2	1231	2		
* 1178	11	329	11	2	12	2	1226	1	1228	2	1304	4		
* 1179	8	406	11	2	1226	1	1228	2	1232	2	1233	1		
* 1180	6	491	1082	2	1226	1	1228	2	1234	1				
* 1181	6	543	1226	1	1228	2	1235	2	1236	1				
* 1182	8	490	100	1	1226	1	1228	2	1235	2	1237	2		
* 1183	6	423	1226	1	1228	2	1238	1	1239	2				
* 1184	17	279	1106	2	1226	1	1227	2	1240	2	1241	6	1304	4
* 1185	9	335	706	4	1106	2	1226	1	1227	2				
* 1186	13	311	706	4	1106	2	1226	1	1227	2	1304	4		
* 1187	8	413	1226	1	1227	2	1242	4	1243	1				
* 1188	14	428	970	6	1226	1	1244	2	1245	2	2145	3		
* 1189	14	463	970	6	1226	1	1244	2	1245	2	2089	3		
* 1190	4	477	438	1	1226	1	1249	2						
* 1191	8	495	1226	1	1249	2	1250	2	1251	3				
* 1192	8	381	13	1	1226	1	1254	2	1255	2	1257	2		
* 1193	6	501	1226	1	1258	3	1259	2						
* 1194	8	405	1260	1	1261	1	1262	6						
* 1195	5	353	1261	1	1263	4								
* 1196	5	583	1264	1	1265	2	1266	2						
* 1197	4	581	1264	1	1267	2	1268	1						
* 1198	4	598	1071	1	1264	1	1269	2						

Table 5 (continued)

PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
* 1199	6	567	666 2 667 1 1264 1 1270 2
* 1200	4	628	1271 3 1272 1
* 1201	4	658	1273 3 1274 1
* 1202	2	655	1275 1 1276 1
* 1203	4	616	100 1 1275 1 1277 2
* 1204	5	646	1278 3 1279 2
* 1205	5	655	1280 3 1281 2
* 1206	6	625	100 1 1278 3 1282 2
* 1207	6	642	100 1 1280 3 1283 2
* 1208	4	605	1287 2 2146 1 2207 1
* 1209	9	487	1019 1 1235 1 1290 2 1292 1 1293 2 2154 1 2187 1
* 1210	8	531	96 1 1293 4 1295 2 2154 1
* 1211	8	511	100 1 1293 4 1297 2 2154 1
* 1212	10	408	4 3 13 2 830 2 1298 2 1299 1
* 1213	9	408	431 2 630 2 1298 2 1299 1 1302 2
* 1214	10	383	1298 2 1299 1 1307 7
* 1215	5	613	712 2 1500 1 1501 2
* 1216	4	591	1502 1 1503 2 1504 1
* 1217	4	613	1503 1 1505 1 1506 1 1507 1
* 1218	4	695	1101 1 1500 1 1507 2
* 1219	4	623	130 1 1500 1 1508 2
* 1220	7	490	1500 1 2058 2 2067 4
* 1221	8	593	100 2 666 2 667 1 1500 1 1513 2
* 1222	8	513	1500 1 1578 4 2058 2 2063 1
* 1223	8	547	1500 1 1583 4 2058 2 2182 1
* 1224	8	459	1500 1 1586 4 2058 2 2183 1
* 1225	4	618	641 1 1500 1 1523 -
* 1226	4	659	1527 2 2061 2
* 1227	3	639	2061 2 2062 1
* 1228	7	498	100 2 673 1 1530 2 2061 2
* 1229	8	486	100 2 1113 2 1530 2 2061 2
* 1231	5	568	1527 2 1531 1 2061 2
* 1232	9	479	100 3 673 2 1530 2 2061 2
* 1233	9	576	100 1 1535 2 1536 4 2150 2
* 1234	12	510	782 4 1540 2 1543 2 1544 2 2063 1 2066 1
* 1235	11	552	684 4 781 2 1542 2 2065 2 2066 1
* 1236	7	589	1547 4 2065 2 2066 1
* 1237	13	494	60 2 71 2 72 4 1549 2 2065 2 2066 1
* 1239	9	603	100 1 1535 2 1551 4 2150 2
* 1240	9	551	542 4 1549 2 2065 2 2066 1
* 1241	7	638	1553 4 2065 2 2066 1
* 1242	9	568	367 4 1542 2 2065 2 2066 1
* 1243	9	508	383 4 1542 2 2065 2 2066 1
* 1244	13	478	383 4 1558 2 1559 4 2148 2 2149 1
* 1245	6	677	1565 2 2067 4
* 1246	5	593	2066 1 2166 4
* 1247	9	533	1084 2 1085 1 2067 4 2184 2
* 1248	11	552	243 1 1019 2 1235 2 1573 2 2067 4
* 1249	9	537	109 2 110 1 1535 2 2067 4
* 1250	11	559	109 2 242 2 243 1 1535 2 2067 4
* 1251	18	450	14 2 109 2 178 2 1306 6 1535 2 2067 4
* 1252	11	561	87 2 109 2 142 1 1535 2 2067 4
* 1253	13	545	639 2 683 4 781 2 1542 2 2065 2 2066 1
* 1254	9	428	100 1 1535 2 1574 4 2150 2
* 1255	18	463	383 4 1059 4 1540 2 1543 4 1544 2 2063 1 2066 1
* 1256	14	469	383 4 1059 2 1540 2 1543 2 1544 2 2063 1 2066 1
* 1257	10	478	383 4 1540 2 1544 2 2063 1 2066 1
* 1258	6	551	1580 4 2063 1 2066 1
* 1259	5	638	2067 4 2068 1
* 1260	6	595	1578 4 2063 1 2068 1
* 1262	12	526	243 1 1019 2 1235 2 1573 2 1578 4 2063 1
* 1263	15	603	623 2 1016 2 1235 2 1573 2 1578 4 1581 1 1582 1 2063 1
* 1264	12	613	104 2 142 1 1235 2 1573 2 1578 4 2063 1
* 1265	10	513	109 2 110 1 1535 2 1578 4 2063 1
* 1267	7	683	1565 2 1583 4 2182 1
* 1269	6	571	1583 4 2068 1 2182 1

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	1270	10	527	1084	2	1085	1	1583	4	2182	1	2184	2		
*	1271	12	571	243	1	1019	2	1235	2	1573	2	1583	4	2182	1
*	1272	12	539	104	2	142	1	1235	2	1573	2	1583	4	2182	1
*	1273	10	510	109	2	110	1	1535	2	1583	4	2182	1		
*	1274	10	513	1084	2	1085	1	1586	4	2183	1	2184	2		
*	1275	12	551	243	1	1019	2	1235	2	1573	2	1586	4	2183	1
*	1276	12	501	104	2	142	1	1235	2	1573	2	1586	4	2183	1
*	1277	4	581	1591	2	2062	1	2152	1						
*	1278	6	436	243	1	1019	2	1592	1	1593	2				
*	1279	5	663	1527	2	1594	2	2185	1						
*	1280	4	569	1594	2	2062	1	2185	1						
*	1282	4	605	1597	2	2062	1	2186	1						
*	1283	11	341	1308	8	1600	1	1601	2						
*	1284	3	468	1600	1	1601	2								
*	1285	7	388	1304	4	1600	1	1601	2						
*	1286	4	463	100	1	1602	1	1603	2						
*	1287	9	614	1604	6	1608	2	2188	1						
*	1288	8	608	1604	6	2157	1	2188	1						
*	1289	10	568	100	1	1604	6	1611	2	2188	1				
*	1290	2	678	1612	2										
*	1291	7	571	1613	4	1617	2	2190	1						
*	1292	6	563	1613	4	2160	1	2190	1						
*	1293	8	529	100	1	1613	4	1620	2	2190	1				
*	1294	9	608	100	1	1621	4	1623	2	1626	2				
*	1295	8	536	100	1	1621	4	1623	2	2158	1				
*	1296	7	589	100	1	1628	2	1630	2	1633	2				
*	1297	6	531	100	1	1630	2	1634	2	2161	1				
*	1298	8	539	100	2	1628	2	1629	2	1630	2				
*	1299	4	488	1639	2	2163	1	2164	1						
*	1300	6	503	100	1	1642	2	1644	2	2164	1				
*	1301	4	503	1645	2	2163	1	2191	1						
*	1302	6	553	100	1	1644	2	1648	2	2191	1				
*	1303	4	553	1650	1	2175	1	2176	1	2178	1				
*	1304	20	463	12	2	693	4	1303	6	1660	2	1661	1	1663	1
			1673 1	2111 1		2210 1		2211 1							
*	1305	3	703	2163	1	2188	2								
*	1306	10	602	1661	1	1669	2	1670	1	1671	3	2098	1	2208	1
			2209 1												
*	1307	8	528	104	1	142	2	1101	1	1676	1	1677	1	2075	1
			2123 1												
*	1308	9	603	104	1	142	2	1084	1	1101	1	1235	1	1678	1
			1679 1	2075 1											
*	1309	6	553	1085	1	1681	2	1683	2	2196	1				
*	1312	11	567	1085	1	1086	2	1661	1	1690	2	1691	2	1692	2
*	1313	11	563	1085	1	1086	2	1661	1	1671	3	1691	2	1690	2
*	1314	9	565	1085	1	1086	2	1690	2	1691	2	1693	2		
*	1315	8	563	1085	1	1086	2	1691	2	1694	2	1695	1		
*	1317	6	563	94	1	1084	2	1085	1	1697	2				
*	1318	10	533	100	2	666	2	667	1	1084	2	1085	1	1698	2
*	1319	7	628	1084	2	1085	1	1700	2	1701	2				
*	1320	10	584	667	1	1082	2	1084	2	1234	1	1702	2	1703	2
*	1321	10	641	667	1	1084	2	1235	2	1236	1	1702	2	1703	2
*	1322	14	371	98	2	103	2	1304	4	1708	2	1710	2	1714	2
*	1323	12	473	100	2	109	2	673	2	1084	2	1698	2	1710	2
*	1324	10	503	100	1	109	2	673	1	1084	2	1698	2	1710	2
*	1325	17	494	11	1	12	1	104	1	142	2	1101	1	1308	2
			1708 1	1714 1		2075 1									
*	1326	14	383	98	2	103	2	1304	4	1708	2	1710	2	1714	2
*	1327	13	388	98	2	103	2	1303	3	1708	2	1710	2	1714	2
*	1328	8	544	100	1	1698	2	1717	2	2193	3				
*	1329	14	453	965	1	1717	2	1731	6	1723	3	1724	2		
*	1330	12	504	100	1	965	1	1698	2	1717	2	1721	6		
*	1332	7	600	1679	2	1730	2	2074	3						
*	1333	6	628	1733	2	2074	3	2194	1						
*	1334	6	560	1736	2	2074	3	2197	1						
*	1335	6	589	1730	2	2074	3	2198	1						
*	1336	8	554	96	1	1697	2	1730	2	2074	3				
*	1337	8	548	100	1	1698	2	1730	2	2074	3				
*	1338	10	492	1071	1	1698	2	1730	2	1738	2	2074	3		
*	1339	8	546	641	1	1730	2	1740	2	2074	3				

Table 5 (continued)

PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
* 1340	22	318	98 2 103 2 1304 4 1308 8 1708 2 1710 2 1714 2
* 1341	18	340	98 2 103 2 1304 8 1708 2 1710 2 1714 2
* 1342	17	346	98 2 103 2 1303 3 1304 4 1708 2 1710 2 1714 2
* 1343	16	353	98 2 103 2 1302 2 1304 4 1708 2 1710 2 1714 2
* 1344	13	489	11 1 12 1 104 1 142 2 1101 1 1304 4 1708 1 1714 1 2075 1
* 1345	15	508	11 1 12 1 104 1 142 2 1101 1 1306 6 1708 1 1714 1 2075 1
* 1353	6	470	454 1 1156 1 1727 2 1753 2
* 1361	8	588	104 1 142 2 1082 1 1086 1 1101 1 1691 1 2075 1
* 1362	8	613	104 1 142 2 1084 1 1101 1 1235 1 1760 1 2075 1
* 1363	10	505	96 1 104 1 142 2 1084 1 1101 1 1235 1 1697 1 1761 1 2075 1
* 1364	10	493	100 1 104 1 142 2 1084 1 1101 1 1235 1 1237 1 1698 1 2075 1
* 1365	30	473	89 6 100 6 666 6 667 3 840 4 1084 1 1235 1 1237 1 1698 1 1702 1
* 1366	10	543	100 2 666 2 667 1 1084 1 1235 1 1237 1 1698 1 1702 1
* 1367	20	488	89 3 100 4 666 4 667 2 840 2 1084 1 1235 1 1237 1 1698 1 1702 1
* 1368	11	643	667 1 1084 2 1235 2 1678 2 1702 2 1703 2
* 1369	12	597	96 1 667 1 1084 2 1235 2 1702 2 1703 2 1761 2
* 1370	12	583	100 1 667 1 1084 2 1235 2 1237 2 1702 2 1703 2
* 1371	12	580	667 2 1084 2 1235 2 1702 2 1703 2 1762 2
* 1372	10	467	104 1 142 2 1082 1 1086 1 1101 1 1763 1 1764 1 1765 1 2075 1
* 1373	6	613	667 1 1084 1 1235 1 1702 1 1703 1 1762 1
* 1374	10	535	104 1 142 2 667 1 1084 1 1101 1 1235 1 1703 1 1762 1 2075 1
* 1375	19	334	13 2 98 4 99 1 103 2 1304 4 1708 2 1710 2 1714 2
* 1376	14	553	454 2 1071 1 1766 8 1770 2 2192 1
* 1377	10	689	1766 8 2078 1 2192 1
* 1378	10	739	1772 8 2077 1 2192 1
* 1379	12	686	100 1 1772 8 1775 2 2192 1
* 1380	16	534	100 1 454 2 1071 1 1766 8 1770 2 1774 2
* 1381	12	629	100 1 1766 8 1774 2 2078 1
* 1382	12	644	100 1 1772 8 1774 2 2077 1
* 1383	14	629	96 1 100 1 1772 8 1774 2 1777 2
* 1384	14	633	100 2 1772 8 1774 2 1775 2
* 1385	20	383	26 2 36 2 39 4 433 2 1085 1 1086 2 1403 3 1726 2 1727 2
* 1386	12	403	26 2 1085 1 1086 2 1403 3 1726 2 1727 2
* 1387	16	383	26 2 36 1 39 2 433 1 1085 1 1086 2 1403 3 1726 2 1727 2
* 1388	4	663	1780 2 2165 2
* 1389	3	524	1781 1 2030 2
* 1390	5	461	60 1 72 2 1781 1 1783 1
* 1391	7	422	72 2 1353 3 1781 1 1783 1
* 1392	9	393	72 2 1355 5 1781 1 1783 1
* 1393	11	368	72 2 1357 7 1781 1 1783 1
* 1394	13	355	72 2 1359 9 1781 1 1783 1
* 1395	15	351	72 2 1361 11 1781 1 1783 1
* 1396	17	348	72 2 1363 13 1781 1 1783 1
* 1397	19	348	72 2 1365 15 1781 1 1783 1
* 1399	6	350	61 2 66 1 68 1 206 1 833 1
* 1400	8	295	59 1 63 1 66 1 68 1 72 2 206 1 833 1
* 1401	13	219	98 2 103 2 110 1 1308 8
* 1402	7	255	10 2 103 2 110 1 797 2
* 1404	21	229	10 2 26 2 165 1 421 4 452 1 467 4 468 2 469 2 874 1 884 2

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs											
*	1405	23	228	10	2	26	4	421	4	452	2	467	4	468	2
			469 2	874	1	884	2								
*	1406	26	216	10	2	26	4	421	4	452	2	467	4	468	2
			469 2	874	1	884	2	1403	3						
*	1407	4	482	2117	3	2205	1								
*	1409	10	395	89	3	100	3	673	2	840	2				
*	1410	9	427	89	3	100	2	840	2	1113	2				
*	1411	10	455	89	3	100	2	840	2	1113	2	1531	1		
*	1412	2	348	100	1	673	1								
*	1414	13	478	14	2	15	2	1082	2	1234	1	1302	2	1690	1
			1800 2	1801	1										
*	1415	13	463	14	2	15	2	1082	1	1234	1	1235	1	1302	2
			1690 1	1803	2	1804	1								
*	1416	13	478	14	2	15	2	1235	2	1236	1	1302	2	1669	1
			1803 2	1804	1										
*	1417	10	543	243	1	1019	2	1082	2	1234	1	1690	1	1800	2
			1801 1												
*	1418	10	558	243	1	1019	2	1082	1	1234	1	1235	1	1690	1
			1803 2	1804	1										
*	1419	10	578	243	1	1019	2	1235	2	1236	1	1669	1	1803	2
			1804 1												
*	1420	10	563	104	2	142	1	1082	2	1234	1	1690	1	1800	2
			1801 1												
*	1421	10	528	104	2	142	1	1082	1	1234	1	1235	1	1690	1
			1803 2	1804	1										
*	1422	10	588	104	2	142	1	1235	2	1236	1	1669	1	1803	2
			1804 1												
*	1423	3	523	2130	2	2131	1								
*	1424	5	507	100	1	1809	2	2130	2						
*	1425	5	503	641	1	1811	2	2130	2						
*	1426	9	403	89	3	840	2	1812	2	1813	2				
*	1427	11	521	684	4	781	2	1817	2	2079	2	2080	1		
*	1428	7	536	1819	4	2079	2	2080	1						
*	1429	9	580	100	1	1824	2	1825	4	2127	2				
*	1430	13	477	60	2	71	2	72	4	1827	2	2079	2	2080	1
*	1432	11	474	782	4	1543	2	1817	2	2079	2	2080	1		
*	1433	9	556	100	1	1824	2	1829	4	2127	2				
*	1434	9	495	542	4	1827	2	2079	2	2080	1				
*	1435	7	600	1831	4	2079	2	2080	1						
*	1436	9	516	367	4	1817	2	2079	2	2080	1				
*	1437	7	483	100	1	1824	2	2128	4						
*	1438	9	478	383	4	1817	2	2079	2	2080	1				
*	1439	5	558	2080	1	2167	4								
*	1440	5	565	2171	2	2172	2	2173	1						
*	1441	5	576	2081	1	2126	4								
*	1442	18	441	14	2	109	2	178	2	1306	6	1824	2	2126	4
*	1443	7	533	100	1	1824	2	2126	4						
*	1444	7	523	641	1	1844	2	2126	4						
*	1445	11	527	109	2	242	2	243	1	1824	2	2126	4		
*	1446	13	504	639	2	683	4	781	2	1817	2	2079	2	2080	1
*	1447	7	441	100	1	673	2	1813	2	1845	2				
*	1448	9	417	1402	2	1846	4	1849	2	2080	1				
*	1449	9	438	1402	2	1849	2	1851	4	2081	1				
*	1450	13	418	109	2	110	1	1402	2	1824	2	1849	2	1851	4
*	1451	15	436	109	2	242	2	243	1	1402	2	1824	2	1849	2
			1851 4												
*	1452	15	441	87	2	109	2	147	1	1402	2	1824	2	1849	2
			1851 4												
*	1453	11	426	100	1	1402	2	1824	2	1849	2	1851	4		
*	1454	8	453	165	1	1849	2	1851	4	2081	1				
*	1455	14	438	87	2	109	2	142	1	165	1	1824	2	1849	2
			1851 4												
*	1456	13	477	970	6	1845	2	1855	2	2089	3				
*	1457	7	542	1857	1	1858	4	1859	2						
*	1458	6	530	1860	4	2080	1	2199	1						
*	1459	6	550	1863	4	2081	1	2199	1						
*	1460	8	468	96	1	1863	4	1866	2	2199	1				
*	1461	8	493	100	1	1824	2	1863	4	2199	1				
*	1462	6	483	100	1	1809	2	1867	2	2200	1				
*	1463	6	486	100	1	1809	1	1867	1	1871	1	1872	1	2174	1

Table 5 (continued)

	PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
*	1464	10	398	98 2 103 2 178 2 1873 2 1874 2
*	1465	12	338	14 2 98 2 103 2 178 2 1873 2 1912 2
*	1466	14	333	13 2 14 2 98 2 103 2 178 2 1873 2 1912 2
*	1467	12	367	98 2 103 2 178 2 1302 2 1873 2 1874 2
*	1468	14	348	98 2 103 2 178 2 1304 4 1873 2 1874 2
*	1469	16	308	14 2 98 2 103 2 178 2 1304 4 1873 2 1912 2
*	1470	18	303	13 2 14 2 98 2 103 2 178 2 1304 4 1873 2 1912 2
*	1471	13	328	60 1 72 2 98 2 103 2 178 2 1874 2 1913 1 1914 1
*	1472	17	283	60 1 72 2 98 2 103 2 178 2 1304 4 1874 2 1913 1 1914 1
*	1473	10	363	98 2 103 2 178 2 1874 2 1915 2
*	1474	14	313	98 2 103 2 178 2 1304 4 1874 2 1915 2
*	1475	9	363	14 2 1302 2 1916 3 1917 2
*	1476	8	495	1916 3 1918 2 1919 3
*	1477	9	523	1235 2 1678 2 1916 3 1920 2
*	1478	11	478	1916 3 1920 2 1921 2 2133 4
*	1479	7	410	1916 3 1925 2 1926 2
*	1480	7	545	1916 3 1927 2 1928 2
*	1481	7	502	1916 3 1929 2 1930 2
*	1482	18	303	4 6 103 2 295 1 555 2 846 2 1916 3 1933 2
*	1483	18	348	4 6 103 2 846 2 1916 3 1933 2 2046 2 2047 1
*	1484	7	479	1082 1 1234 1 1920 1 1936 3 1937 1
*	1485	8	517	243 1 1019 2 1938 3 1939 2
*	1486	6	565	142 1 1916 3 1940 2
*	1487	28	337	11 2 12 2 15 2 1308 16 1876 2 1941 2 1942 2
*	1488	12	376	11 2 12 2 15 2 1876 2 1941 2 1942 2
*	1489	20	338	11 2 12 2 15 2 1304 8 1876 2 1941 2 1942 2
*	1490	6	398	11 1 12 1 15 1 1876 1 1941 1 1942 1
*	1491	10	328	11 1 12 1 15 1 1304 4 1876 1 1941 1 1942 1
*	1492	7	383	11 1 15 1 44 1 523 1 1941 1 1942 1 1944 1
*	1493	12	331	11 1 12 1 15 1 1306 6 1876 1 1941 1 1942 1
*	1495	5	466	438 1 1945 2 1946 2
*	1497	6	376	438 1 1004 2 1947 2 1948 1
*	1499	11	314	3 1 14 1 92 1 97 1 98 1 437 1 438 1 1304 4
*	1500	10	323	3 1 14 1 92 1 97 1 98 1 437 1 438 1 1303 3
*	1501	9	313	3 1 14 1 92 1 97 1 98 1 437 1 438 1 1302 2
*	1502	4	465	243 1 438 1 1949 2
*	1503	8	309	3 1 13 1 14 1 92 1 97 1 98 1 437 1 438 1
*	1504	10	466	96 1 1761 2 1950 2 1953 1 2048 2 2052 2
*	1505	11	355	14 2 437 2 438 1 1306 6
*	1506	10	451	96 1 1235 2 1761 2 1953 1 1954 2 1955 2
*	1507	11	463	1235 2 1678 2 1956 3 1957 2
*	1508	11	353	11 2 12 2 1304 4 1958 1 1959 2
*	1509	9	548	109 2 242 2 243 1 721 2 722 2
*	1510	9	545	87 2 109 2 142 1 721 2 722 2
*	1511	8	588	109 2 242 2 243 1 737 1 738 2
*	1512	8	590	87 2 109 2 142 1 737 1 738 2
*	1513	10	295	104 2 142 2 1101 1 1962 2 1963 2 2201 1
*	1514	4	354	13 1 1965 2 1966 1
*	1515	3	436	1965 2 1966 1
*	1516	10	361	1306 6 1967 2 1968 2
*	1517	9	340	104 2 142 1 1082 2 1969 2 1970 2
*	1518	6	503	1973 4 2084 1 2086 1
*	1519	6	518	1976 4 2085 1 2087 1
*	1520	6	513	1978 4 2084 1 2087 1

Table 5 (concluded)

PNo.	Ngroups	Tg	Group Numbers followed by their coefficients, in pairs
* 1521	6	508	1977 4 2085 1 2086 1
* 1522	4	552	96 1 1979 2 1980 1
* 1523	4	561	100 1 1980 1 1981 2
* 1524	10	503	1304 4 1982 2 1983 2 1984 2
* 1525	4	508	100 1 1985 2 1986 1
* 1526	4	499	96 1 1986 1 1987 2
* 1527	10	458	1304 4 1988 2 1989 2 1990 2
* 1528	7	293	1304 4 1988 2 1991 1
* 1529	3	398	1992 1 1993 2
* 1530	2	473	1992 1 1994 1
* 1531	14	448	89 3 96 1 840 2 1995 2 1998 2 1999 4
* 1532	10	465	96 1 673 1 1995 2 1998 2 1999 4
* 1533	18	488	96 1 970 6 1998 2 1999 4 2089 3 2202 2
* 1534	11	457	96 1 1998 2 1999 4 2003 1 2005 2 2203 1
* 1535	12	430	89 3 840 2 1995 2 2008 4 2137 1
* 1536	16	495	970 6 2008 4 2089 3 2137 1 2202 2
* 1537	14	447	89 3 100 1 840 2 1995 2 1999 4 2010 2
* 1538	9	467	2003 1 2005 2 2008 4 2137 1 2203 1
* 1539	4	427	2008 2 2011 1 2113 1
* 1540	4	376	1144 1 2013 3
* 1541	16	238	223 6 874 3 2014 6 2015 1
* 1542	20	198	223 9 874 4 1143 6 1144 1
* 1544	24	185	223 12 874 5 1143 6 1144 1
* 1545	12	457	89 3 109 2 110 2 840 2 1947 2 1948 1
* 1546	10	447	109 2 110 2 666 2 667 1 1947 2 1948 1
* 1547	4	470	110 1 1947 2 1948 1
* 1548	10	463	96 1 445 2 1235 2 1761 2 1947 2 1948 1
* 1549	6	470	87 2 142 1 1947 2 1948 1
* 1550	4	376	1071 1 1948 1 2016 2
* 1551	16	454	87 2 92 2 103 2 1233 1 1900 2 2017 3
		2018 2	2019 2
* 1552	15	413	87 2 92 2 98 2 103 2 2017 3 2018 2
		2019 2	
* 1553	13	469	12 2 1304 4 2017 3 2021 2 2022 2
* 1554	2	633	1878 1 1879 1
* 1555	10	410	72 2 109 2 110 1 810 1 839 2 840 2
* 1557	4	275	1909 1 1910 2 1911 1
* 1558	14	260	87 2 98 2 103 2 142 1 1307 7
* 1559	11	530	87 2 109 2 142 1 1824 2 2126 4
* 1560	8	315	103 2 1233 1 1900 2 1904 1 1905 2
* 1561	7	282	14 1 102 1 424 1 556 1 1303 3
* 1562	24	353	26 2 36 3 39 6 433 3 1085 1 1086 2
		1403 3	1726 2 1727 2
* 1563	29	333	26 2 36 3 39 6 433 3 1006 2 1403 3
		1404 4	1725 2 1726 2 1727 2
* 1564	30	313	26 4 36 3 39 6 433 3 1403 6 1726 2
		1727 2	1753 2 2024 2
* 1565	6	563	100 1 666 2 1879 1 2049 2
* 1566	12	206	10 2 26 2 159 2 165 1 797 2 1403 3
* 1567	4	195	36 1 39 2 433 1
* 1568	18	265	26 2 103 2 242 2 243 1 433 2 1403 3
		2054 2	2055 4
* 1569	22	252	26 2 36 1 39 2 103 2 242 2 243 1
		433 3	1403 3 2054 2 2055 4
* 1570	26	249	26 2 36 2 39 4 103 2 242 2 243 1
		433 4	1403 3 2054 2 2055 4
* 1571	9	296	10 2 103 2 242 2 243 1 797 2
* 1572	11	283	10 2 103 2 242 2 243 1 797 2 1402 2

Table 6

UNIQUE GROUPS IN POLYMERS

Polymer	Unique groups
44	903,340
83	619,1068
99	776
106	778,777
108	624
128	829
149	1149,355
174	1366
190	750
199	137
213	756
215	497
218	995
222	761
225	1421
226	792
227	784
228	1321
246	1790
247	94,101
248	996
250	128
252	839
253	843
256	1245
257	712
267	174
269	1314
271	544
309	799
311	455,930
315	973,2042
316	848
323	649,646
331	671,953,668
333	1301
335	678,682,959
343	877,231
346	708
370	1069,2032
371	1060
372	1061
373	6
375	1065,1064
377	716
379	1057,1056
380	1054
383	1053
386	1074,1073
390	1047,1048
391	1045
392	1044
394	2051,1043
396	1041
397	1040
398	909,838
401	1039
402	1038
403	1037
404	1036
405	1035
406	1034
407	1033
408	1032
413	1027
414	1025
415	1023
417	1022,2050
418	1021
419	910
420	986
421	993
424	1360
426	1017
430	1075
431	33
445	1093,1094
447	2044,1096
448	2043
449	1098,1099
456	1110,1109
463	1112
467	1114
469	1115,1116,1117
470	1119,1118
479	715
480	1120,1121,1122
481	1150
482	820,1148
483	172
484	732
486	1197,2139
489	2093,2144
497	1136
500	1138
503	1139
507	1141
516	113,114
517	124,117
519	1457
523	132,134
524	136,135,164
525	140
527	144,141,816
531	49,50,51
532	88
533	48,55,138
534	751
535	84
536	85
542	157
569	169
571	171,173
573	185
578	1456
579	187
580	189
581	190
582	193
583	194
596	195
602	207,205
607	1154
613	403
618	139
622	304,891
623	307
625	123,121
631	2031
639	311
660	300
702	696,399
703	844
708	405
717	408
721	410
726	372,375,377
746	430,481,490
759	439
760	441
761	442
767	584
768	436
770	507
771	509
799	461,460
804	734,746
806	1408
812	470
825	525
826	526
833	29
834	609
835	45
841	266
848	636

Table 6 (continued)

Polymer	Unique groups	Polymer	Unique groups	Polymer	Unique groups
852	1151	1074	255	1211	1297
856	588	1084	1161,1153	1215	1501
862	637	1095	992	1216	1502,1504
868	847	1096	989,990	1217	1506,1505
875	543	1097	991	1218	1507
879	573	1098	994,1046	1219	1508
880	575	1101	890,871	1221	1513
881	576,581	1102	131	1225	1523
893	590,591	1103	888	1233	1536
898	1312	1108	925,929,915,951,905	1236	1547
908	596,597	1120	1170	1239	1551
911	531,535	1124	1173	1241	1553
923	579,578	1142	1364	1244	1559,2148,2149,1558
926	563	1154	628	1246	2166
930	521,924	1155	1180,1181	1254	1574
931	226	11622	1190,2169	1258	1580
934	1152	1164	642,1196	1263	1581,1582
935	2212	1166	1202,1200,1201	1277	2152,1591
936	634	1168	730,1203	1278	1592,1593
939	629	1169	1205,1208	1282	1597,2186
940	644,647	1170	1204,1211,1213	1286	1602,1603
941	519	1171	1215,2179	1287	1608
942	589	1172	1220,1218,2206,	1288	2157
943	508,602	1173	2180	1289	1611
944	603	1174	2143,1225	1290	1612
945	607	1176	1229	1291	1617
946	612,608,610	1177	1231,1230	1292	2160
947	807,616	1179	1232	1293	1620
948	653	1183	1238,1239	1294	1626
949	153	1184	1240,1241	1295	2158
951	748	1187	1242,1243	1296	1633
952	492	1188	2145	1297	1634,2161
958	669	1189	1244	1298	1629
959	655,656	1190	1249	1299	1639
960	658,674,692	1191	1250,1251	1300	1642
963	709	1192	1255,1257,1254	1301	1645
964	477	1193	1258,1259	1302	1648
965	724	1194	1262,1260	1303	2176,2178,1650,2175
967	711	1195	1263	1304	1660,1663,2111,2210
968	725	1196	1265,1266	1305	2168
970	933	1197	1267,1268	1306	2098,1670,2208,2209
975	676	1198	1269	1307	1676,2123,1677
982	681	1199	1270	1309	1681,1683,2196
1038	1906	1200	1272,1271	1312	1692
1042	759	1201	1274,1273	1313	1661,1671
1047	770	1202	1276	1314	1693
1050	1000	1203	1277	1315	1694,1695
1051	621	1204	1279	1319	1700,1701
1054	793	1205	1281	1328	2193
1062	824	1206	1282	1329	1724,1723
1064	822	1207	1283	1330	1717,1721
1067	828	1208	1287,2146,2207	1333	1733
1068	826	1209	2187,1290,1292	1333	2194
1070	870	1210	1295	1334	1736,2197

Table 6 (concluded)

Polymer	Unique groups	Polymer	Unique groups	Polymer	Unique groups
1335	2198	1457	1857,1858,1859	1518	1973
1338	1738	1458	1860	1519	1976
1339	1740	1460	1866	1520	1978
1361	1691	1462	2200	1521	1977
1362	1760	1463	1871,2174,1872	1522	1979
1372	1765,1764,1763	1475	1917	1523	1981
1383	1777	1476	1919,1918	1524	1983,1984,1982
1388	2165,1780	1477	1920	1525	1985
1389	2030	1479	1926,1925	1526	1987
1397	1365	1480	1928,1927	1527	1989,1990
1407	2117	1481	1930,1929	1528	1991
1423	2131	1482	1933	1529	1993
1424	1809,2130	1483	2046,2047	1530	1994
1425	1811	1484	1937,1936	1537	2010
1426	1812	1485	1938,1939	1539	2113,2011
1428	1819	1486	1940	1540	2013
1429	1825	1492	523,1944	1541	2015,2014
1433	1829	1495	1946,1945	1550	2016
1435	1831	1502	1949	1553	2022,2021
1437	2128	1504	2052,1950,2048	1554	1878
1439	2167	1506	1954,1955	1555	810
1440	2171,2172,2173	1507	1957,1956	1557	1911,1909,1910
1444	1844	1508	1959,1958	1564	2024
1447	1845,1813	1513	1962,1963,2201	1565	2049
1448	1846	1516	1968,1967	1566	159
1456	1855	1517	1970,1969		

Table 7

NUMBER OF POLYMERS CONTAINING EACH GROUP IN THE POLYMER SET

Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol
3	4.	4	12.	5	3.	6	1.	10	68.	11	31.	12	25.	13	31.
14	60.	15	17.	24	3.	25	3.	26	41.	28	5.	29	1.	33	1.
36	9.	39	9.	43	2.	44	3.	45	1.	46	3.	48	2.	49	1.
50	1.	51	1.	55	3.	56	92.	57	82.	58	136.	59	120.	60	54.
61	8.	63	34.	64	24.	66	30.	68	16.	71	12.	72	176.	74	10.
80	6.	84	1.	85	1.	87	32.	88	1.	89	35.	90	15.	92	21.
93	3.	94	1.	95	3.	96	20.	97	38.	98	108.	99	48.	100	96.
101	1.	102	19.	103	138.	104	19.	105	14.	107	4.	108	3.	109	36.
110	31.	113	1.	114	1.	115	8.	117	1.	120	2.	121	1.	122	2.
123	1.	124	1.	125	2.	126	2.	127	2.	128	1.	129	3.	130	4.
131	1.	132	1.	134	1.	135	1.	136	1.	137	1.	138	6.	139	1.
140	1.	141	1.	142	38.	144	1.	148	33.	153	1.	157	1.	159	1.
162	21.	163	8.	164	1.	165	57.	166	10.	169	1.	171	1.	172	1.
173	1.	174	1.	175	22.	176	4.	177	5.	178	51.	179	7.	180	6.
181	32.	183	26.	184	2.	185	1.	187	1.	189	1.	190	1.	191	3.
193	1.	194	1.	195	1.	197	7.	203	3.	205	1.	206	7.	207	1.
223	17.	226	1.	229	8.	230	11.	231	1.	232	11.	235	17.	236	7.
237	8.	239	3.	242	37.	243	40.	253	2.	255	1.	256	3.	259	3.
263	3.	265	2.	266	1.	272	11.	274	5.	290	3.	291	2.	295	7.
296	2.	297	2.	298	2.	299	4.	300	1.	303	5.	304	1.	307	1.
311	1.	316	2.	319	2.	328	11.	330	4.	332	3.	334	2.	338	2.
340	1.	349	4.	355	1.	367	5.	372	1.	373	13.	375	1.	377	1.
382	4.	383	6.	385	4.	393	4.	394	8.	395	6.	396	7.	399	2.
400	2.	403	1.	405	1.	408	1.	410	1.	419	3.	420	2.	421	17.
422	2.	424	2.	426	9.	430	1.	431	5.	433	16.	435	3.	436	1.
437	5.	438	10.	439	1.	441	1.	442	1.	443	3.	445	25.	452	21.
454	6.	455	1.	457	9.	459	66.	460	1.	461	1.	462	2.	467	13.
468	17.	469	12.	470	1.	471	9.	477	2.	481	1.	483	2.	490	1.
492	1.	493	2.	494	3.	497	1.	503	13.	507	1.	508	1.	509	1.
519	1.	521	1.	523	1.	525	1.	526	1.	528	2.	529	6.	531	1.
535	1.	538	14.	539	4.	540	2.	541	2.	542	5.	543	1.	544	1.
545	5.	546	4.	547	2.	548	11.	549	2.	551	3.	554	3.	555	3.
556	2.	557	25.	559	2.	561	9.	563	2.	572	18.	573	1.	574	2.
575	1.	576	1.	578	1.	579	1.	581	1.	584	1.	586	7.	588	2.
589	1.	590	1.	591	1.	592	13.	593	2.	594	5.	595	5.	596	1.
597	1.	599	2.	601	2.	602	1.	603	1.	605	2.	606	2.	607	1.
608	1.	609	1.	610	1.	612	1.	614	52.	615	39.	616	1.	619	2.
621	1.	623	3.	624	1.	625	7.	627	2.	628	1.	629	1.	630	9.
631	2.	632	3.	634	1.	636	1.	637	1.	638	22.	639	19.	640	2.
641	6.	642	1.	643	2.	644	1.	645	47.	646	1.	647	1.	649	1.
651	3.	653	1.	654	5.	655	2.	656	2.	657	2.	658	1.	660	2.
663	2.	664	2.	665	2.	666	28.	667	36.	668	1.	669	1.	671	1.
673	15.	674	1.	675	2.	676	1.	678	1.	679	4.	681	1.	682	1.
683	8.	684	5.	686	2.	688	12.	689	4.	690	4.	691	23.	692	1.
693	9.	694	2.	696	2.	698	4.	699	3.	700	2.	704	3.	706	3.
707	23.	708	1.	709	1.	710	10.	711	2.	712	2.	715	1.	716	1.
718	2.	721	2.	722	2.	724	1.	725	1.	726	4.	730	1.	731	5.
732	1.	733	7.	734	1.	737	2.	738	2.	741	10.	742	7.	743	10.
745	2.	746	1.	748	1.	750	1.	751	1.	752	3.	754	2.	756	1.
759	1.	761	1.	768	33.	770	1.	772	3.	773	7.	776	1.	777	1.
778	1.	780	2.	781	14.	782	4.	784	1.	785	9.	788	2.	790	13.
791	5.	792	1.	793	1.	794	5.	795	17.	796	4.	797	57.	799	1.
800	2.	801	7.	802	2.	807	1.	809	44.	810	1.	814	2.	816	1.
817	2.	818	4.	819	2.	820	1.	821	4.	822	1.	824	1.	826	1.
827	3.	828	1.	829	1.	830	5.	833	226.	838	1.	839	2.	840	49.
841	6.	842	3.	843	1.	844	1.	846	10.	847	2.	848	1.	849	2.
851	2.	856	5.	860	5.	864	4.	870	1.	871	1.	874	47.	877	1.
884	17.	888	1.	890	1.	891	1.	903	1.	904	4.	905	1.	909	1.
910	1.	915	1.	924	1.	925	1.	929	1.	930	1.	933	1.	951	1.
952	2.	953	1.	955	2.	959	1.	965	8.	969	2.	970	8.	973	1.
975	9.	979	5.	980	13.	981	7.	982	8.	985	6.	986	1.	988	5.
989	1.	990	1.	991	1.	992	1.	993	1.	994	1.	995	1.	996	1.
997	2.	1000	1.	1001	12.	1004	2.	1006	14.	1008	12.	1009	9.	1010	10.
1012	4.	1015	2.	1016	2.	1017	1.	1019	12.	1021	1.	1022	1.	1023	1.
1024	9.	1025	1.	1027	1.	1029	4.	1030	4.	1031	5.	1032	1.	1033	1.
1034	1.	1035	1.	1036	1.	1037	1.	1038	1.	1039	1.	1040	1.	1041	1.
1043	2.	1044	1.	1045	1.	1046	1.	1047	1.	1048	1.	1049	2.	1050	5.
1051	3.	1052	3.	1053	1.	1054	1.	1056	1.	1057	1.	1059	6.	1060	1.
1061	1.	1062	2.	1063	4.	1064	1.	1065	1.	1068	2.	1069	1.	1070	2.

Table 7 (concluded)

Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol	Grno	Npol
1071	11.	1072	4.	1073	1.	1074	1.	1075	1.	1076	8.	1082	12.	1084	20.
1085	15.	1086	10.	1093	1.	1094	1.	1096	1.	1098	1.	1099	1.	1101	21.
1102	2.	1103	3.	1106	25.	1107	2.	1108	2.	1109	1.	1110	1.	1111	3.
1112	1.	1113	4.	1114	1.	1115	1.	1116	1.	1117	1.	1118	1.	1119	1.
1120	1.	1121	1.	1122	1.	1124	3.	1133	2.	1134	18.	1135	11.	1136	1.
1137	2.	1138	1.	1139	1.	1141	1.	1142	6.	1143	5.	1144	8.	1148	1.
1149	1.	1150	1.	1151	2.	1152	1.	1153	1.	1154	1.	1156	3.	1157	2.
1161	1.	1162	7.	1163	7.	1164	9.	1165	26.	1166	5.	1167	12.	1168	12.
1169	12.	1170	1.	1171	4.	1172	5.	1173	1.	1174	4.	1175	2.	1180	1.
1181	1.	1184	4.	1185	4.	1187	5.	1190	1.	1194	2.	1196	1.	1197	1.
1200	1.	1201	1.	1202	1.	1203	1.	1204	5.	1205	1.	1207	2.	1208	1.
1211	3.	1213	2.	1215	1.	1218	1.	1220	1.	1225	1.	1226	19.	1227	15.
1228	8.	1229	1.	1230	1.	1231	1.	1232	1.	1233	3.	1234	9.	1235	35.
1236	55.	1237	6.	1238	1.	1239	1.	1240	1.	1241	1.	1242	1.	1243	1.
1244	2.	1245	3.	1249	2.	1250	1.	1251	1.	1254	1.	1255	1.	1257	1.
1258	1.	1259	1.	1260	1.	1261	2.	1262	1.	1263	1.	1264	4.	1265	1.
1266	1.	1267	1.	1268	1.	1269	1.	1270	1.	1271	1.	1272	1.	1273	1.
1274	1.	1275	2.	1276	1.	1277	1.	1278	2.	1279	1.	1280	2.	1281	1.
1282	1.	1283	1.	1287	1.	1290	1.	1292	1.	1293	3.	1295	1.	1297	1.
1298	3.	1299	3.	1301	1.	1302	36.	1303	17.	1304	47.	1305	8.	1306	19.
1307	2.	1308	11.	1309	4.	1312	1.	1314	1.	1321	1.	1352	23.	1353	21.
1354	11.	1355	12.	1356	10.	1357	10.	1358	3.	1359	6.	1360	1.	1361	2.
1363	3.	1364	1.	1365	1.	1366	1.	1400	2.	1402	34.	1403	22.	1404	9.
1405	3.	1406	7.	1408	1.	1421	1.	1452	2.	1453	5.	1454	9.	1455	3.
1456	1.	1457	1.	1500	9.	1501	1.	1502	1.	1503	2.	1504	1.	1505	1.
1506	1.	1507	2.	1508	1.	1513	1.	1523	1.	1527	3.	1530	3.	1531	2.
1535	9.	1536	1.	1540	4.	1542	4.	1543	4.	1544	4.	1547	1.	1549	2.
1551	1.	1553	1.	1558	1.	1559	1.	1565	2.	1573	8.	1574	1.	1578	6.
1580	1.	1581	1.	1582	1.	1583	7.	1586	4.	1591	1.	1592	1.	1593	1.
1594	2.	1597	1.	1600	3.	1601	3.	1602	1.	1603	1.	1604	3.	1608	1.
1611	1.	1612	1.	1613	3.	1617	1.	1620	1.	1621	2.	1623	2.	1626	1.
1628	2.	1629	1.	1630	3.	1633	1.	1634	1.	1639	1.	1642	1.	1644	2.
1645	1.	1648	1.	1650	1.	1660	1.	1661	4.	1663	1.	1669	4.	1670	1.
1671	2.	1673	3.	1676	1.	1677	1.	1678	4.	1679	2.	1681	1.	1683	1.
1690	9.	1691	5.	1692	1.	1693	1.	1694	1.	1695	1.	1697	4.	1698	15.
1700	1.	1701	1.	1702	10.	1703	9.	1708	11.	1710	10.	1714	11.	1717	3.
1721	2.	1723	1.	1724	1.	1725	8.	1726	6.	1727	8.	1730	6.	1733	1.
1736	1.	1738	1.	1740	1.	1753	4.	1760	1.	1761	5.	1762	3.	1763	1.
1764	1.	1765	1.	1766	4.	1770	2.	1772	5.	1774	5.	1775	2.	1777	1.
1780	1.	1781	9.	1783	8.	1790	1.	1800	3.	1801	3.	1803	6.	1804	6.
1809	3.	1811	1.	1812	1.	1813	2.	1817	5.	1819	1.	1824	13.	1825	1.
1827	2.	1829	1.	1831	1.	1844	1.	1845	2.	1846	1.	1849	8.	1851	7.
1855	1.	1857	1.	1858	1.	1859	1.	1860	1.	1863	3.	1866	1.	1867	2.
1871	1.	1872	1.	1873	7.	1874	7.	1876	6.	1878	1.	1879	2.	1900	2.
1904	3.	1905	3.	1906	1.	1909	1.	1910	1.	1911	1.	1912	4.	1913	2.
1914	2.	1915	2.	1916	10.	1917	1.	1918	1.	1919	1.	1920	3.	1921	1.
1925	1.	1926	1.	1927	1.	1928	1.	1929	1.	1930	1.	1933	2.	1936	1.
1937	1.	1938	1.	1939	1.	1940	1.	1941	7.	1942	7.	1944	1.	1945	1.
1946	1.	1947	6.	1948	7.	1949	1.	1950	1.	1953	2.	1954	1.	1955	1.
1956	1.	1957	1.	1958	1.	1959	1.	1962	1.	1963	1.	1965	2.	1966	2.
1967	1.	1968	1.	1969	1.	1970	1.	1973	1.	1976	1.	1977	1.	1978	1.
1979	1.	1980	2.	1981	1.	1982	1.	1983	1.	1984	1.	1985	1.	1986	2.
1987	1.	1988	2.	1989	1.	1990	1.	1991	1.	1992	2.	1993	1.	1994	1.
1995	4.	1998	4.	1999	5.	2003	2.	2005	2.	2008	4.	2010	1.	2011	1.
2013	1.	2014	1.	2015	1.	2016	1.	2017	5.	2018	2.	2019	2.	2021	1.
2022	1.	2024	1.	2030	1.	2031	1.	2032	1.	2040	6.	2041	8.	2042	1.
2043	1.	2044	1.	2046	1.	2047	1.	2048	1.	2049	1.	2050	1.	2051	2.
2052	1.	2054	3.	2055	3.	2058	4.	2060	3.	2061	6.	2062	4.	2063	11.
2065	8.	2066	14.	2067	9.	2068	3.	2073	2.	2074	8.	2075	11.	2077	2.
2078	2.	2079	9.	2080	12.	2081	4.	2084	2.	2085	2.	2086	2.	2087	2.
2089	8.	2093	1.	2098	1.	2111	1.	2113	1.	2115	6.	2116	6.	2117	1.
2123	1.	2126	6.	2127	2.	2128	1.	2130	3.	2131	1.	2132	2.	2133	1.
2137	3.	2139	1.	2143	1.	2144	1.	2145	1.	2146	1.	2148	1.	2149	1.
2150	3.	2152	1.	2154	3.	2157	1.	2158	1.	2160	1.	2161	1.	2163	3.
2164	2.	2165	1.	2166	1.	2167	1.	2168	1.	2169	1.	2171	1.	2172	1.
2173	1.	2174	1.	2175	1.	2176	1.	2178	1.	2179	1.	2180	1.	2182	7.
2183	4.	2184	3.	2185	2.	2186	1.	2187	1.	2188	1.	2190	3.	2191	2.
2192	4.	2193	1.	2194	1.	2196	1.	2197	1.	2198	1.	2199	4.	2200	1.
2201	1.	2202	2.	2203	2.	2205	7.	2206	1.	2207	1.	2208	1.	2209	1.
2210	1.	2211	1.	2212	1.										

Table 9

DISTRIBUTION OF TGS WITHIN THE DATA SET

Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo	Tg	Npo
120	1.	146	1.	153	1.	155	1.	163	2.	167	1.	171	1.	173	2.	175	1.	177	1.
179	1.	180	2.	183	1.	185	2.	187	3.	188	7.	189	1.	190	3.	191	3.	193	4.
194	2.	195	5.	196	1.	197	3.	198	9.	199	2.	200	3.	201	5.	202	5.	203	9.
204	4.	205	4.	206	4.	207	4.	208	5.	210	3.	211	4.	212	2.	213	8.	214	4.
215	10.	216	8.	217	1.	218	10.	219	3.	220	7.	221	10.	222	1.	223	11.	224	4.
225	4.	226	5.	227	2.	228	14.	229	3.	230	2.	231	10.	232	3.	233	11.	234	2.
235	10.	236	7.	237	5.	238	7.	239	8.	240	2.	241	5.	242	1.	243	6.	244	6.
245	9.	246	7.	247	2.	248	9.	249	6.	250	5.	251	8.	252	2.	253	8.	254	5.
255	4.	256	3.	257	4.	258	12.	259	3.	260	6.	261	1.	262	3.	263	15.	264	4.
265	7.	266	3.	267	4.	268	5.	269	2.	270	8.	271	2.	272	4.	273	1.	274	1.
275	2.	276	2.	277	2.	278	2.	279	4.	280	3.	281	2.	282	2.	2883	12.	286	3.
288	1.	289	1.	290	1.	291	2.	292	3.	293	10.	295	4.	296	3.	297	1.	298	6.
299	2.	300	3.	301	1.	302	2.	303	8.	304	2.	305	3.	306	2.	307	1.	308	3.
309	2.	310	2.	311	2.	312	1.	313	5.	314	4.	315	3.	316	1.	317	2.	318	4.
319	5.	320	3.	321	1.	322	2.	323	6.	324	3.	325	6.	326	4.	327	5.	328	2.
329	3.	330	1.	331	3.	332	2.	333	9.	334	4.	335	4.	337	2.	338	7.	339	7.
340	6.	341	1.	342	2.	343	4.	344	2.	345	3.	346	1.	347	2.	348	8.	349	5.
350	1.	351	3.	353	7.	354	2.	355	3.	356	3.	357	2.	358	4.	359	2.	360	2.
361	1.	363	4.	364	1.	365	4.	366	1.	367	3.	368	5.	371	3.	372	1.	373	3.
374	3.	375	3.	376	5.	378	2.	379	2.	380	3.	381	5.	383	8.	385	2.	386	2.
388	4.	389	2.	390	2.	391	2.	393	5.	394	4.	395	4.	396	1.	397	1.	398	6.
399	1.	400	2.	401	2.	403	5.	404	1.	405	2.	406	1.	407	2.	408	3.	410	2.
411	1.	413	4.	417	2.	418	4.	420	3.	422	3.	423	3.	425	2.	426	2.	427	2.
428	5.	430	1.	433	2.	436	3.	438	5.	439	1.	441	4.	446	1.	447	3.	448	7.
449	2.	450	2.	451	1.	453	7.	454	1.	455	1.	457	4.	458	1.	459	1.	461	2.
462	1.	463	9.	465	2.	466	2.	467	2.	468	3.	469	2.	470	3.	473	6.	474	1.
475	1.	477	4.	478	11.	479	2.	482	1.	483	4.	486	2.	487	1.	488	4.	489	1.
490	2.	491	1.	492	1.	493	2.	494	2.	495	4.	498	1.	499	1.	501	3.	502	1.
503	10.	504	2.	505	1.	507	2.	508	4.	510	2.	511	2.	513	5.	516	1.	517	1.
518	1.	521	1.	522	1.	523	4.	524	1.	526	1.	527	2.	528	2.	529	1.	530	2.
531	2.	533	4.	534	1.	535	1.	536	2.	537	1.	538	1.	539	2.	541	1.	542	1.
543	3.	544	1.	545	3.	546	1.	547	1.	548	3.	550	1.	551	3.	552	3.	553	4.
554	1.	556	1.	558	2.	559	1.	560	1.	561	3.	562	1.	563	6.	565	3.	567	2.
568	3.	569	1.	571	3.	576	2.	578	1.	580	2.	581	2.	583	2.	584	1.	588	3.
589	3.	590	1.	591	1.	593	2.	595	1.	597	1.	598	1.	600	2.	602	1.	603	3.
605	2.	608	2.	613	5.	614	1.	616	1.	618	1.	623	2.	625	1.	628	3.	629	2.
633	2.	638	2.	639	1.	641	1.	642	1.	643	2.	644	1.	646	1.	653	1.	655	2.
658	1.	659	1.	663	2.	669	1.	677	1.	678	1.	683	1.	686	1.	689	1.	695	1.
703	1.	739	1.																

Numbers of polymer Tgs in temperature bands

Tg band	Npo	Tg band	Npo	Tg band	Npo	Tg band	Npo	Tg band	Npo
100/201	64.	200/301	463.	300/401	285.	400/501	174.	500/601	142.
600/701	49.	700/801	2.						

REFERENCES

No.	Author	Title, etc
1	W.A. Lee	The importance and significance of the glass transition temperatures of polymers. RAE Technical Memorandum Mat 1050 (1983)
2	P.M. Rabley	Private communication
3	D.E. Lloyd	Private communication
4	W.A. Lee	Calculation of the glass transition temperatures of linear polymers. Part I. Rules for hierarchical ordering of the data set. RAE Technical Report 84109 (1984)
5	W.A. Lee R.A. Rutherford (RAPRA*)	RAPRA Data Handbook: Polymer transition temperature data sheets. RAPRA, Shawbury (1974)
6	J.M. Barton W.A. Lee D. O'Mahoney	Correlation of the glass transition temperatures of polyacrylates, polymethacrylates, and polychloroacrylates with their chemical structures. RAE Technical Report 67298 (1967)
7	W.A. Lee Shirley A. Watts	Correlation of the glass transition temperatures of carbon-chain fluoropolymers with their chemical structures. RAE Technical Report 74060 (1974)

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17. Abstract

A large data set of 1197 polymers, with corresponding glass transition temperatures, is tabulated both in the form of chemical structures and in numerical form suitable for computer analysis. Polymers have been analysed into groups with invariant nearest neighbours and where a particular gruoup is found in only one polymer, it has been identified. An unambiguous and easily assimilated method of analysing and classifying polymer structures into combinations of groups is illustrated which could be more widely adopted with much advantage. It is suggested that the polymer data set, with appropriate modifications and improvements, should be used as a standard set for the evaluation of Tg relationships.